Dr MADDOCK
ON
DISEASES OF THE CHEST

FOURTH EDITION

SL/23-5-e-1

S.L.

The Royal College of Physicians
of London.

From the Library of

Sir Andrew Clark, Bart.

Presented by Lady Clark.

146B16

PULMONARY CONSUMPTION,

BRONCHITIS, ASTHMA, CHRONIC COUGH,

AND VARIOUS

DISEASES OF THE LUNGS,

AIR-PASSAGES, THROAT, AND LARYNX,

SUCCESSFULLY TREATED BY

MEDICATED INHALATIONS.

BY

ALFRED BEAUMONT MADDOCK, M.D.

ILLUSTRATED WITH CASES.

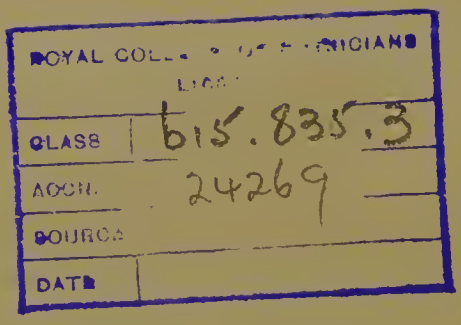
FOURTH EDITION.

LONDON:

SIMPKIN, MARSHALL, AND Co., STATIONERS' HALL COURT;

H. BAILLIERE, 219, REGENT STREET.

MDCCCLI.



LONDON : PRINTED BY W. CLOWES AND SONS, STAMFORD STREET.

THIS VOLUME

IS

Dedicated to the Memory

OF THE LATE

HENRY MADDOCK, M.P.,

BARRISTER-AT-LAW,

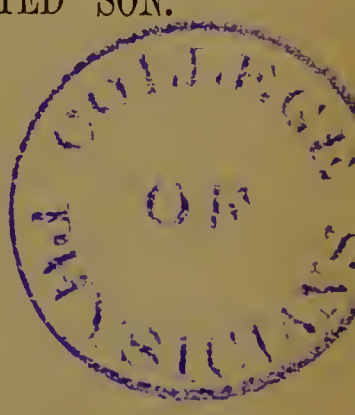
(AUTHOR OF THE "PRACTICE OF THE COURT OF CHANCERY," "CHANCERY REPORTS,"
"LIFE OF LORD CHANCELLOR SOMERS," &c., &c.)

A SLIGHT TRIBUTE OF

REVERENTIAL FEELING AND UNCEASING AFFECTION,

BY

A DEVOTED SON.



CONTENTS.

Page

Preliminary Remarks 1

CHAPTER I.

Description of the Respiratory Organs 7

CHAPTER II.

Pathology and Symptoms of Pulmonary Consumption . 11

CHAPTER III.

Diagnosis of Pulmonary Consumption and other Diseases of the Chest by Auscultation—Prognosis 19

CHAPTER IV.

Statistics of Pulmonary Diseases; showing their Extent and Duration, and how far influenced by Climate, Race, Occupation, Age, and Sex 25

CHAPTER V.

The Causes of Diseases of the Chest, and the Means of their Prevention 33

CHAPTER VI.

PAGE

THE TREATMENT OF DISEASES OF THE LUNGS, AIR-PASSAGES, AND THROAT BY MEDICATED INHALATIONS 58

THE RATIONALE AND THE METHOD OF INHALING 106

CASES

ILLUSTRATIVE OF THE EFFICACY OF MEDICATED INHALATIONS, &c. 111

INDEX 169

ADVERTISEMENT

TO THE

FOURTH EDITION.

The publishers have informed the Author that the whole of the last edition (the third) has been disposed of, and that numerous applications are still being made for it. In consequence of these gratifying circumstances, the Author is induced to lay before the profession and the public another edition, and can only add that an extended experience, since the first publication of the work (now seven years ago), has confirmed the strong and decided opinion he then expressed of the value and efficacy of medicated inhalations, in all complaints connected with the mucous membrane of the throat, air passages, and substance of the lungs.

In this, as in every previous edition, the Author has avoided all theoretical speculations, which might furnish matter of doubtful conjecture, and has contented himself with a faithful recital of facts unincumbered with tedious and uninteresting parti-

culars, and divested of useless minutiæ; and he trusts that the integrity of his intention will undisguisedly appear to the eye of candour, and serve to palliate every degree of illiberal criticism. Be that as it may, of this he is well assured, that should the practice of medicine receive the least accession from his experience and endeavours, he will think his time well spent, and his studies well directed; and for the indulgent reception of his past labours, the public and members of the press are entitled to his most grateful acknowledgments.

A. B. M.

56, Curzon Street, May-Fair,
London.

PREFACE

TO THE SECOND EDITION.

The whole Edition of this Work having been disposed of in an unexpectedly brief period, the Author has not been enabled, in the present instance, to perform so much as he could have wished; but he trusts that the new materials which his professional occupations have enabled him to add, will be found neither uninteresting nor unimportant. At the same time he takes this opportunity of stating, that additional experience and careful observation, in the treatment of diseases of the air-passages, lungs, and heart, authorise him in speaking with increased confidence of the advantages to be derived from conveying medicaments, by Inhalation, to the immediate seat of disordered action;—which mode of practice he has daily seen succeed, in cases where the long-continued trial of the

various remedies as usually exhibited, and upon which the most experienced of the faculty solely depend, had proved entirely ineffectual.

In issuing another Edition, the Author begs to express his best thanks to the gentlemen of the public press, for the very favourable opinion they have unanimously expressed of his work, and for the disinterested anxiety and readiness with which they have seconded his endeavours in extending his views, and disseminating the principles upon which the system of Inhalation is based. His acknowledgments are no less due in courtesy and kindness to numerous members of the Profession, who have consulted him in practice, and in their own individual cases, for the handsome and candid manner in which they have borne the most ample testimony as to the superiority of Inhalation, in affections of the chest, over all other remedial means; and he doubts not, that other corroborative testimony will continue to be added, until an amount of evidence shall have accumulated, sufficient to shake the unbelief of the most inveterately sceptical. For, although we are all doomed to witness the painful spectacle of Error frequently confronting Truth, and usurping her highest prerogatives,—just as the noxious and unprofitable weeds are seen to

grow up side by side with the golden grain,—yet Truth, immortal and immutable, will ever be omnipotent in the end—to use our own family motto "Veritas magna est, et prevalebit"—and so with the practice of Inhalation, which is raised upon and bound up with Truth—its destiny is the same; it may encounter prejudice and opposition, but its triumph will yet be signal and complete.

him better to attempt to do good—even though it be done in an imperfect manner—than not to do it at all.

In conclusion, the Author claims no merit beyond that of promoting and extending this invaluable means for the direct local application of remedies; and if his humble labours tend to prolong the life, or alleviate the sufferings, of one of his fellow-creatures, he will think them amply repaid.

PRELIMINARY REMARKS.

The quiver of death has no arrow so fatal as Consumption. In all ages it has been the giant foe of life. It blights the ruddy hue of youth, and cankers the damask cheek of beauty. It invades the domestic circle, and strikes down in the haunts of business and walks of pleasure. Insidious in its commencement, and fatal in its termination, it spares neither age nor sex, and extends its ravages to every climate; and, more fearful than the far-famed maladies of Pandora's box, pulmonary consumption has, until very recently, left its victims without hope. It is, therefore, highly consolatory to know, that the influence of medicated inhalations at last bids fair to conquer its fatality.

Although the reasonableness and importance of inhala-

tion, or the local application of medicated vapours in diseases of the air-passages and lungs, cannot be questioned, it must be admitted that it has not obtained for itself, in this country, that extent of inquiry and examination which it deserves, and which, amongst our continental brethren, has justly been bestowed upon it. And yet it is not easy to imagine how this mode of treating diseases of the organs of breathing should have been neglected, its feasibility is so self-evident, and in such accordance with the theory, principles, and practice of medical science, and the teachings of common sense; for it is an admitted fact, that remedies directly applied to the absorbing surfaces of the lungs, independently of the specific local influence they exert, are carried into the system, and produce analogous effects as when directed to the surface of the stomach. But there are frequent instances we meet with in actual life, where the duty of inquiry, if not positively rejected, is really evaded; and it was not, perhaps, to be expected that the scepticism and prejudice, which beset all departures from a beaten track, would leave this unopposed and disregarded.

Let not, however, the preconceived idea, that inhalation accomplishes little or no good, prevent an impartial and sufficiently extensive trial of its merits as a curative agent. The responsible duties which medical men owe to mankind and to themselves, equally demand that this plan of treatment should be duly investigated; for, not gifted with infallibility, in what way, except by diligent inquiry and research, can the practitioner obtain any assurance that he is not disseminating and perpetuating erroneous opinions of its value?

Some medical men, it is true, have given their attention to the subject, and have reported unfavourably of inhalation; but we have generally discovered that the cases in which it had been adopted were of such a character, that the disease had already caused very extensive disorganization of the lungs, or, that the remedies had not been administered in the proper quantities, and with sufficient caution and perseverance. It may, however, be observed, that the instances, in which these trials have been made, are "few and far between;" indeed, it may be asserted,

although all the members of the profession approve of the principles on which the system of inhalation is founded, that scarcely one practitioner in five hundred has employed it as a remedial agent; and this strange apathy has been exhibited, it must be remembered, in the treatment of those diseases declared as *incurable* under the old routine of practice.

Facts do not justify us in asserting that inhalation will invariably and universally prove successful, any more than such a desirable termination could be expected in all other complaints, in which the treatment is more generally understood; but the result of our practice has clearly shown us, that pulmonary consumption and other diseases of the chest are *not* incurable, as they have been hitherto esteemed,—that the medical art *is* possessed of means capable of oftentimes completely and radically overcoming them,—and that, in the most desperate cases, the more painful and distressing symptoms may invariably be palliated.

Putting aside, for the moment, the curative effects of inhalation, the incontrovertible fact of its being capable of lessening the amount of human suffering,

must alone be considered sufficient as demanding the most serious attention, and deserving a full and fair trial from the profession.

To guard against misconception, it is necessary to state, that, while relying so much upon inhalation, it is only as an important auxiliary that we regard it; and that we do not exclude in our treatment such other remedial means, as the progress or other circumstances of the case either suggest or admit; conscious, to quote the language of Horace,

"———— Alterius sic
Altera poscit opem res, et conjurat amice."

For though the absorption of tubercles, or the cicatrisation of cavities, be accomplished by certain remedies acting specifically upon them, yet the germs of the disease may still be latent in the system, and, at a future time, again present themselves, if constitutional treatment be not simultaneously adopted, to improve that general depraved condition of the system from which they originate; and, at the same time, every precaution should be used to avoid those exciting causes of disease to which we have elsewhere alluded.

It is a fine observation of a modern author, that "undoubtedly we have no questions to ask which are unanswerable. We must trust the perfection of nature so far as to believe, that whatever the order of things has awakened, the order of things can satisfy." We earnestly trust that the pages of this volume will hasten the period when there will be no unanswerable questions in medical science: when the patient may trust the physician's skill so far as to believe, that whatever diseases the *ordo rerum* may unfortunately have generated, the resources of the medical art can remove.

A TREATISE

ON

MEDICATED INHALATIONS, &c.

CHAPTER I.

DESCRIPTION OF THE RESPIRATORY ORGANS.

To give the non-medical reader an interest in the method of treating diseases of the respiratory organs by medicated inhalations, and to enable him properly to appreciate the rules laid down for their prevention, we shall commence our Treatise with a brief outline of the anatomy of the thoracic viscera.

The chest, or thorax, is a cavity situated at the upper part of the body; it is longitudinally divided into two parts by a membranous partition called the mediastinum, stretched between the breast and the back-bone, or from front to rear. On one side of the partition is placed the right lung, which is divided into

three sections, or lobes; on the other side the left, being divided into two lobes, the place of the third being occupied by the heart, which lies on this side of the chest.

The lungs are of a dark-purplish, mottled appearance, and are composed of air-cells, congregated in small groups, or clusters, not unlike the clusters of the grape. Attempts at calculating the number of the air-cells have been made by some physiologists: Keill, distinguished for his mathematical attainments, computed them at 1,744,000,000 in each lung; Leiberkuhn, a German anatomist, represents them as equal in superficies to 20,000 square feet. Around the cells, binding them together and forming, as it were, the matrix in which they are imbedded, is a quantity of cellular substance, which may be said to constitute the substance of the lungs.

The air penetrates the lungs through the windpipe, or trachea, a round tube of about an inch in diameter, which may be easily felt running down the front of the neck. This canal is kept open by cartilaginous rings, inserted in its sides, which prevent the possibility of the tube being compressed by external means, or by food passing down the œsophagus, or gullet, in the act of swallowing; and thus respiration is preserved from interruption. At the bottom of the neck, the

windpipe terminates in the bronchi, or bronchial tubes, which divide, like the prongs of a fork, into two principal branches, a right and a left; and these again sub-divide, the right into three, the left into two, corresponding with the number of lobes in the lungs which they severally supply. Plunged into these lobes, the bronchial tubes continue still further to ramify and divide until their branches attain an extreme degree of minuteness, and finally terminate each in a little rounded vesicle, or cul-de-sac, formed of the lining membrane of the air-tubes.

If the reader will picture the lungs of the exact shape and size required to fill each side of the chest, allowing a space for the heart on the left; and will further consider these organs of a light elastic spongy texture,—an interwoven series of air-tubes, air-cells, and blood-vessels, and each tube supplied with a nerve to direct its proper use, and to give warning when irritated or diseased; he will have a tolerably correct idea of their form and structure.

The chief duty of the lungs is to bring air in contact with the dark or venous blood, or blood which has already performed its round of the body, by which exposure it is converted into red, or arterial blood, or that blood which is circulated by means of a great artery called the aorta. This change, which is

necessary for sustaining the freshness or vitality of the blood, and for generating and keeping up the heat of the body, is chemically produced by the oxygen of the atmosphere being absorbed, and a corresponding volume of carbonic-acid gas, which the blood had acquired in its circulation through the system, being given off.

The reader will now understand, from this description of the air-passages and lungs, that if a patient, labouring under any diseases of these parts, inhales medicated vapours in the same way as he breathes common air, the remedies must necessarily come *in immediate contact with the organs affected.* It requires but little exposition to show the importance and value of inhalation in these particular diseases, and its advantages over the ordinary mode of taking remedies; for it will at once be apparent, that medicines thus administered escape the many changes which would otherwise be produced upon them, by the processes of digestion, chylification, absorption, assimilation, and by being circulated through the system before reaching the seat of disease.

CHAPTER II.

PATHOLOGY AND SYMPTOMS OF PULMONARY CONSUMPTION.

The membrane which lines the windpipe and the bronchial tubes in all their minute ramifications, and which terminates by forming the air-cells, is endued in its whole extent with the power of *secreting ;* that is, of separating from the blood certain materials which form a thick viscid matter, well known under the name of mucus. This mucus moistens the parts, and in all natural states just a sufficient quantity is secreted for this purpose and also to make up for what is lost by evaporation, or that moisture which every one knows accompanies the breath on its return from the lungs; but should the lining membrane be injuriously acted on by any cause, such as breathing an acrid vapour, or a sudden change in the temperature of the air inspired, the membrane then becomes inflamed, and a greater quantity of blood than is natural is determined to the part,

and, in consequence, more mucus is secreted than is necessary; it therefore collects, and, as the watery parts evaporate, condenses into pellet-shaped masses in the bronchial tubes, in which it has been formed, and a partial obstruction is thus offered to the passage of air into the air-cells supplied from this tube. Notice of this impediment is at once given by the nerves which supply the part, and nature endeavours by a cough,—that is, by a sudden and forcible contraction of the chest,—to expel the air from the cells and tubes behind the obstruction, and thus dislodge the offending matter. This is a plain and simple account of that very common affection called a "cough," and will explain to our readers the pathology of coughing.

As secreting surfaces separate the materials of mucus from healthy blood, so will they remove any morbid products from vitiated blood; and the air-tubes and air-cells which in health secrete mucus which is not only harmless but, as we have shown, beneficial, will, in a state of disease, secrete a new matter, termed tuberculous deposits.

Various opinions have been entertained respecting the nature and origin of tubercles. Hippocrates, Galen, and other ancient authors, considered them to be putrified phlegm lodged in the lungs. In later times, Sylvius de la Boe, Tralles, Portal, Broussais,

and Wepfer, conceived that tubercles were lymphatic glands, and liable, as all other glands are, when irritated, to become inflamed, and eventually to suppurate. Dr. Reid considers them to be a collection of inorganic mucus. Dr. Barrow and M. Dupuy endeavour to show that tubercles are hydatids (very minute animals distended with fluid, which have been discovered in several cavities of the body). Laennec says, that a multitude of facts have convinced him that the development of tubercles is the result of a general depraved condition of the system. Dr. Carswell believes, that tuberculous matter, ready formed, exists in the blood, and is deposited in the lungs. Dr. Campbell gives his opinion, that the blood becomes charged with particles derived from the materials of nutrition, which, being carried forward to the lungs, are capable, in some organisations, of passing through their extreme vessels, and hence producing no effect; but which, in other cases, are retained by the capillaries (the small ramifications of arteries), and thus, by gradual accumulations, form masses apparently homogeneous, to which is conventionally applied the name of tubercle. Dr. Flood, in his recent work, very ingeniously tries to prove that tuberculous deposits essentially arise from some defect in the function of nutrition, from disease of the mesenteric glands, and consequent obstructions in the lacteal vessels and the progress of

the fluid they contain. Others have contended that tubercles are the products of inflammation; and a vast number of different theories have been broached as to the origin of tubercles, but, as they are based on mere hypothesis, it would be tedious and of no practical use to advert to them, for it must be admitted by all candid minds, that the true character and mode of development of tubercles have hitherto baffled all research.

When tubercles are first deposited they appear of a greyish hue, are transparent, and are named miliary, from their supposed resemblance to the millet seed. They seem to the naked eye round, but the microscope shows them to be angular; they are very adherent to the lungs, and cannot be separated without also detaching the pulmonary texture. They vary in number from four or five to as many thousands. After a longer or shorter period they gradually enlarge, and eventually soften, generally first in the centre, and sometimes simultaneously at several points, and running into each other form a cavity, or excavation, in the substance of the lungs. When the tuberculous mass is completely softened, it becomes of a dull yellowish white colour; and pus, generally of a thick, tenacious, cheesy-like nature, is expelled from the lungs through the bronchial tubes into the windpipe, and from thence is expectorated.

While this disorganisation is advancing inside the lungs, corresponding symptoms are discovered in the general health. It is impossible to describe correctly by any symptoms, a disease so varied in its course and duration as consumption; but the first indication is most commonly a slight tickling cough, which, from being unattended with any great difficulty of breathing, or constitutional disturbance, is too frequently regarded as a *simple cold*, and is oftentimes treated improperly, or altogether neglected. After a short time the cough becomes more frequent, and is accompanied by a little mucous expectoration, the breathing gets hurried, and the pulse quickened, especially after any exertion, and occasionally a "stitch" in the side is complained of. The patient gradually becomes paler, and palpitations are experienced, especially after ascending stairs, or walking quickly. A degree of feverishness ensues, with a feeling of chilliness during the day, and in the night the perspiration is much increased, by which the pulse is lowered, and the frame generally debilitated: this may be termed the first stage, and it is most desirable that medical aid should be sought at this period.

The second stage is characterised by loss of appetite, emaciation, and diminished strength: the fever increases, the cough becomes more frequent, and the expectoration

more abundant. Perhaps at this period, from the tubercular deposits pressing on the sides of some small vessels, thereby obstructing the flow of blood through them, blood becomes extravasated, and is spat up, or streaks of it mark the expectoration. The cheeks are patched with a hectic flush; more difficulty of breathing and oppression at the chest are experienced, for less air being taken in at each inspiration, more frequent inspirations become necessary, and the person who formerly breathed but fifteen times in a minute will now breathe twenty; the perspirations are more copious, and the general power is so diminished, that the patient is no longer capable of active exertion or exercise.

In the third, or last stage, a marked change succeeds: the tuberculous deposits, being increased in size and number, are clustered together, and running into each other form an excavation into which the air has now free admission, and acts on its raw and unhealed sides. From this result fresh inflammation, new supplies of blood, and new depositions of tubercular matter; the cough further increases in severity and frequency; the expectoration is changed in character, and consists of pus, or mucus, containing softened, or occasionally solid tuberculous deposits, shreds of lymph, and sometimes particles of pulmonary tissue in a fœtid state.

The fits of coughing are now distressing, especially after lying down or getting up, perhaps because the change in position alters the situation of the puriform matter remaining in the cavity, and thus exposes a new source of irritation. Should the disease be principally confined to one lung, the patient generally lies on that side, by which means the sound lung, which is now called upon to perform the greater part of respiration, is left unimpaired by the weight of the body, and can thus be more fully and easily dilated. But the alleviation is merely slight and temporary: fresh collections of tubercles burst, and additional exacerbations are thereby excited—the night perspirations break forth heavy and profuse—the debility and emaciation progress in proportion to the other symptoms—the lining membrane of the air passages becomes thickened, or ulcerated, or even studded with tubercles, and the cough is incessant—the extremities swell, and the powers of the stomach failing, its contents are not unfrequently rejected by the violent fits of coughing. The intestines share in the general state of disease, the internal membrane of which becoming irritated, or ulcerated, diarrhœa alternates with or accompanies the profuse evacuation of the skin. The hectic flush is increased, and the eye assumes a pearly whiteness, and has a certain wildness of expression; the brain supplied with improperly aërated blood

is also affected, and mental excitement, common from the commencement, occasionally towards the close heightens to languid delirium, or total imbecility; but the senses most frequently remain entire, and the poor patient gradually and imperceptibly sinks into eternity, oftentimes anticipating to the last moment a recovery.

Such has hitherto been the unchecked progress of this terrible disease; but we earnestly trust and believe that the preventive and curative measures now recommended, if properly attended to and carried out, will be the means of averting its frequency and reducing its fearful mortality.

CHAPTER III.

DIAGNOSIS OF PULMONARY CONSUMPTION AND OTHER DISEASES OF THE CHEST BY AUSCULTATION.—PROGNOSIS.

The act of inspiration and expiration, or the passage of air into and out of the lungs, and the motion of the blood in the heart and blood-vessels, produce certain sounds; and the term auscultation (from auscultо, I listen) is applied to the methods used to ascertain by these sounds, or signs, which reach the ear when placed next to the chest, the seat and nature of various diseases of the respiratory and circulating organs. Should the lungs or the heart be diseased, these sounds become changed, and thus the altered condition of their structure will be detected. But the application of the ear itself to the chest, more especially of the female sex, is objectionable for obvious reasons, added to which it is impracticable thus to institute a proper examination of some parts. To remove these difficulties, a little instrument, called the stethoscope, consisting of a hollow tube or trumpet, about a foot in

length and two inches in diameter, was invented by the eminent pathologist Laennec, in the year 1816; which not only enables the practitioner to explore all parts of the chest, but communicates the sounds in a much more perfect degree. It is well known, that sounds conveyed by a tube, or any other body in direct contact with the ear, are much more distinct than when widely diffused in the air; hence the reason of deaf people employing hearing-horns. This familiar example will explain to the reader the object of this all-important instrument, which, although at first ridiculed as quackery and absurdity, is now universally regarded by the profession as one of the greatest boons presented to the medical world in modern times.

Percussion, or the mode of artificially producing sounds, consists in striking the chest, and is equally simple in its principles as is auscultation by the stethoscope. Suppose we strike with the finger any hollow vessel, a certain sound will be produced, varying, of course, in kind and intensity according to the size of the vessel, the nature of its parietes or walls, and their thickness; but if any solid substance be placed in the vessel, the sound will become much duller and altogether changed in character. It must therefore, be evident that the chest (which may be regarded as a hollow reservoir), when there are no morbid deposits in the lungs or heart to

increase its density, will emit sounds of a different kind from what they would be if such substances were present.

It would be foreign to the object of this work, and incompatible with its assigned limits, to enter minutely into the various and delicate sounds which indicate different diseases of the lungs and heart, and it is also difficult to render intelligible by words the special character of the sounds elicited from a healthy or diseased chest; but we may generally remark that the respiratory murmur, which in a state of health is scarcely audible, becomes, in tuberculous disease, more distinct, the voice more resonant, and the sound produced by percussion duller. These alterations in the respiration, and in the signs elicited by percussion, take place from the summit to the base of the chest, and are most frequently confined to the superior lobes of the lungs on one side, where the development of tubercles usually first takes place. In bronchitis, with which consumption is sometimes confounded, the morbid sounds proceed from fluid in the bronchial tubes, and not from an increased density in the lungs; and, unlike consumption, they are generally discovered at the inferior part of the chest, and usually at both sides. The physical signs which denote suppuration in the latter stages of consumption, consist in the superior parts of the chest being dull on percussion, accompanied by a hollow, coarse

respiration, giving rise to a peculiar phenomenon, called pectoriloquy, which is said to exist when the voice is heard through the stethoscope applied to the chest, and sometimes by a tinkling echo, or metallic ringing. Should there be much fluid in the lungs, arising from impeded respiration, a mucous râle, or rattle, which has been compared to the sound caused by blowing through a pipe into soapy water, is then perceived over the diseased parts. When the air passes through the cavities, a peculiar cavernous respiration is heard, induced by the passage of air from the bronchial tubes into the cavities, instead of entering the minute air-cells. To demonstrate the presence of tubercular disease, the physical signs must exist collectively, and be accompanied by the general symptoms to which we have alluded in the previous chapter.

The information to be acquired relative to the condition of internal organs in general is necessarily very limited; but by the aid of auscultation and percussion the practitioner is enabled to obtain *direct* symptoms of thoracic diseases, in respect of their nature, origin, and condition, which are almost as infallible as those derived from actual sight: and he is thereby enabled to steer his course through those numerous difficulties and uncertainties, which would embarrass and perplex him if attention were wholly directed to functional derangement.

Although the various changes in the texture and functions of the lungs and heart are capable of being detected with such wonderful certainty, yet it is evident that the power of discovery must belong to those only who have, by physiological and pathological investigations, added to considerable practice and close observation, made themselves acquainted with their formation, progress, and results. For it is not sufficient that certain sounds be communicated to the ear, that disease will be detected—the mind must be made familiar with the objects from which these sounds proceed, and the ear must be musical, and well tutored, to be capable of discriminating between the healthy and morbid sounds.

The Pulmometer, to which we have alluded in another part, is also an important addition to our means of detecting disease, and in ascertaining the power of the lungs under different circumstances and conditions.

Respecting the Prognosis of pulmonary consumption, we may briefly remark, that it may be regarded as favourable when the disease is confined to one lung, and unattended by purulent expectoration, hectic fever, nocturnal perspirations, or materially diminished strength. The most unfavourable circumstances are, the complaint descending from tuberculous parents, and attacking both lungs, great emaciation, high degree

of fever, colliquative sweats, expectoration of pure pus, diarrhœa, and swelling of the extremities; which symptoms may be regarded as infallibly denoting tuberculous excavations. But, to show that such advanced cases are not invariably incurable, as they have been regarded by many members of the profession, we must refer the reader to the chapter on "Treatment," and the cases annexed thereto. In confirmation of the curability of consumption, it would be impossible to appeal to a higher authority than Laennec, the greatest pathologist of modern times, who says, "from a multitude of facts, I am convinced that in some cases the disease is curable in the latter stages;" that is, after the softening of the tubercles, and the formation of an ulcerous excavation: and further, "that the cure of consumption, when the lungs are not completely disorganised, ought not to be looked upon as at all impossible, in reference either to the nature of the disease, or of the organ affected."

CHAPTER IV.

STATISTICS OF PULMONARY DISEASES: SHOWING THEIR EXTENT AND DURATION, AND HOW FAR INFLUENCED BY CLIMATE, RACE, OCCUPATION, AGE, AND SEX.

Pulmonary Consumption is not only of very frequent occurrence, but is almost invariably, under the ordinary mode of treatment, of a fatal character. As evidence of this melancholy fact we need but refer to the following table, extracted from the bills of mortality, which exhibits the ravages by consumption in London in the seventeenth, eighteenth, and nineteenth centuries.

SEVENTEENTH CENTURY.			EIGHTEENTH CENTURY.			NINETEENTH CENTURY.		
Years.	Total Deaths.	Total by consumption.	Years.	Total Deaths.	Total by consumption.	Years.	Total Deaths.	Total by consumption.
1657	12,434	2,757	1705	22,097	2,784	1829	23,524	5,372
1682	29,691	3,464	1710	24,060	2,706	1833	26,577	4,355
1687	21,460	3,373	1720	25,454	3,054	1834	21,679	3,792
1692	20,874	3,512	1730	26,761	3,728	1836	18,229	3,238
1696	18,638	3,471	1745	21,296	4,015	1837	49,918	7,754
1697	20,970	3,820	1750	23,727	5,887	1839	44,898	7,677
1698	20,183	3,583	1755	21,917	4,322	1841	43,927	7,562
1699	20,795	3,351	1758	17,576	3,411	1843	46,527	7,567

Since the year 1836 the bills of mortality have been much more carefully prepared, under the able superin-

tendence of Mr. Farr, than they were previously to that period. By these new tables we see that, on an average, *seven thousand six hundred and forty-seven* deaths annually occur in the metropolis from consumption, and about *sixty thousand* in the whole of Great Britain; and if to these are added numerous other complaints of the respiratory organs and of the heart, it may be fairly estimated that *one-half* of the deaths in these climates depend on diseases of the chest.

When we recollect the delicate organization of the lungs—that every minute of our existence we inspire and expire upon an average thirty-six times, which movements commence at birth and continue without cessation, until death—and when we remember how the lungs receive blood from the heart, varying in quantity and quality, and how they are operated upon by a changeable atmosphere, impregnated with injurious vapours and loaded with hurtful particles, we can experience no surprise at the universality of pulmonic disease. But however easily we may be able to account for the prevalence of consumption, the admitted fact, that sixty thousand persons are computed to die of it annually in Great Britain, assuredly demands the serious attention of the faculty, and it is a matter of no slight regret that this fell destroyer of our species should so long have been ranked as the opprobrium artis medicinæ.

From the Registrar-General's report it appears, that in the unions of the counties of Cornwall, Devonshire, Dorsetshire, Wiltshire, and Somersetshire, whose estimated population was 1,723,770, the deaths from consumption were in the

	Males.	Females.
Cities.....	1,947	1,930
Counties.....	1,325	1,466

In the counties of Essex, Gloucester (except Bristol and Clifton), Hereford, Norfolk (except Norwich), Suffolk, Sussex, and Westmoreland, whose estimated population is 1,776,980; and in the districts of Bath, Aston, Bristol, Clifton, Birmingham, Cambridge, Carlisle, Derby, Exeter, Dudley, Leeds, Leicester, Manchester, Liverpool, Maidstone, Newcastle-on-Tyne, Nottingham, Northampton, Stoke-upon-Trent, Salford, Sheffield, Sunderland, West Derby, and Wolverhampton, whose estimated population is 1,762,710;—in the same period there died from consumption—

	Males.	Females.
Cities	2,118	2,130
Counties.....	1,363	1,703

These tables exhibit the influence of *occupation* in producing pulmonic disease. In the rural districts,

agricultural pursuits are generally followed; while, in the larger towns, trades and manufactures are carried on in badly ventilated apartments, and with cramped and unhealthy positions of the body.

Dr. Lombard, whose researches are founded on a total of 4300 deaths from pulmonary consumption, out of 54,572 persons pursuing different trades in workshops and in the open air, ascertained that the number of deaths in the former were double that of the latter; and this proportion increased as the apartments were confined and ill ventilated.

The subjoined statistical reports of Major Tulloch are most interesting, as exhibiting the extent of pulmonic disease at various foreign stations:—

	Windward and Leeward Command.	Jamaica.	Gibraltar.	Malta.	Ionian Islands.	Bermuda.	Canada.	Nova Scotia and New Brunswick.	Cape District.	Mauritius.	United Kingdom.
Attacked annually, by Phthisis, out of 1000 white troops at each of the following stations.	12	13	$6\frac{5}{10}$	$6\frac{7}{10}$	$5\frac{2}{10}$	$8\frac{8}{10}$	$6\frac{5}{10}$	7	$3\frac{1}{3}$	$7\frac{7}{10}$	$6\frac{6}{10}$
Deaths annually, per 1000, from all diseases of the lungs at the same stations	$10\frac{4}{10}$	$7\frac{5}{10}$	$5\frac{3}{10}$	6	$4\frac{8}{10}$	$8\frac{7}{10}$	$6\frac{7}{10}$	$7\frac{1}{10}$	$3\frac{9}{10}$	$5\frac{6}{10}$	8

It is to be remarked, with regard to this table, that as many of the troops who are invalided at these stations die on their passage homeward, or after their arrival in this country, they are necessarily excluded from it; hence the actual mortality is greater than it is here represented to be.

The annexed report relates more particularly to the Negro population of various climates:—

	West Coast of Africa.	Honduras.	Bahamas.	Jamaica.	Mauritius.	Windward and Leeward Command.	Gibraltar.
Died annually, per 1000, by diseases of the lungs, in black troops	$6\frac{3}{10}$	$8\frac{1}{10}$	$9\frac{7}{10}$	$10\frac{3}{10}$	$12\frac{9}{10}$	$16\frac{5}{10}$	$33\frac{5}{10}$

Nearly two-thirds of this mortality, it will be seen, arise from consumption; the proportion is less than that of Englishmen, but if the native troops leave their country for colder climates, the mortality among them increases to such an extent, that it would seem impossible for them ever to perpetuate a healthy offspring.

With respect to the *period* of life above puberty at which consumption is most fatal, it has been generally remarked, that the greatest mortality occurs between the ages of 20 and 40.

Dr. Briquet, physician to the Hôpital Cochin, states,

that of 609 individuals who had died in the hospital from consumption, three-fifths of the cases occurred between the ages of 20 and 35 years, and in most of the remaining between 35 and 50 years of age. The mean age at which the patients descended from parents subject to consumption, were first attacked, Dr. Briquet found to be 27; while in those in which the disease was not proved to be hereditary, 31 was the mean of its appearance.

Bayle and Louis found that, upon an average of many hundred cases, the deaths occurred as follows:—

Age.	Deaths.		
	Louis.	Bayle.	Total.
15 to 20.....	10	10	20
20 to 30.....	29	23	52
30 to 40.....	23	23	46
40 to 50.....	21	21	42
50 to 60.....	12	15	27
60 to 70.....	5	8	13

Lombard de Génève, who had unusual opportunities of instituting post mortem examinations of children, states that consumption is very rarely found in the fœtus, or in the first months of life; and that, from 1 to 2 years, it was discovered in 1-8th; 2 to 3, 2-7ths; 3 to 4, 4-7ths; and from 4 to 5, 3-4ths.

With reference to the different *seasons*, out of a mortality of 240, Dr. Bayle reports that 54 died in the

Spring; 68 in the Summer; 64 in the Autumn; and 54 in the Winter.

Of 98 cases treated by Dr. Briquet, 30 supervened in December, January, and February; 24 in March, April, and May; 23 in June, July, and August; and 21 in September, October, and November. In our own practice, we have found pulmonary consumption more prevalent and fatal during the autumn and winter than at other seasons of the year.

In regard to *sex*, the new statistical tables, out of every 60,000 cases of consumption, give 37,540 females, and 22,460 males; and this is about the average proportion in Paris.

The following statement shows the age and sex of one hundred consumptive patients, treated by the author in private and parochial practice :—

Ages.	Males.	Females.	Total.
Between 3 and 15	5	11	16
,, 15 — 20	8	11	19
,, 20 — 30	15	18	33
,, 30 — 40	8	10	18
,, 40 — 50	3	4	7
,, 50 — 60	3	3	6
,, 60 — 70	0	1	1
Grand Total	42	58	100

It will be noticed from the above table, that con-

sumption is much more prevalent among the female sex. There are many reasons which will, independently of their more delicate organization, account for this disparity, among which may be enumerated, the want of a proper physical education—insufficient clothing, more especially to the upper parts of the chest—and tight lacing—to which points we have more particularly alluded in another part of these pages.

The average duration of tubercular consumption has been stated by Heberden, Andral, Louis, Sir James Clarke, and others, as ranging from nine months to two years; but this calculation does not apply to the *acute* forms, commonly called "galloping consumption," which may prove fatal in from two or three weeks, to three or four months.

CHAPTER V.

THE CAUSES OF DISEASES OF THE CHEST AND THE MEANS OF THEIR PREVENTION.

Pulmonary Consumption, or in medical language phthisis pulmonalis, may be classed under two heads—the hereditary and accidental. The hereditary, the more frequent cause, descending from persons of a hectic constitution, usually indicated by a smooth, fair and rosy complexion, light eyes, large transparent blue veins, fair or red hair, a narrow pointed chest, high prominent shoulders, long thin neck, and generally slender frame. The accidental, originating from different circumstances, such as variations of temperature — imperfect nutrition, whether from deficient or improper food — breathing a vitiated atmosphere — depressing or exciting passions — insufficient clothing, and tight lacing — continued fever — fluor albus, or any weakening discharges—continuing to suckle too long — excessive indulgences — onanism — intemperance — long continued courses of mercury: these are some of the more common causes; but a deranged state of health, it

matters not how produced, predisposes to tubercular disease. In some foreign countries, more particularly Spain, Portugal, Italy, and Malta, pulmonary consumption is regarded as contagious, and hence the civil authorities direct that the clothes, &c., of all persons dying of this disease be immediately burnt; but a great majority of British practitioners do not entertain this opinion.

Conceiving that it is one of the most important duties devolving upon the medical practitioner, to withdraw individuals from the influence, or morbific agency, of disease, we shall make a few observations upon the conditions necessary for the preservation of health, and also point out, as far as our limits will permit, those precautionary measures by which not only pectoral, but other diseases may oftentimes be averted. It is not, of course, in the power of persons entirely to overcome natural weakness, or deficiency of constitutional energy; but, there is no doubt, by becoming better acquainted with the functions of the different organs, and the laws by which they are regulated, that individuals may frequently preserve to themselves that greatest of all earthly blessings—mens sana corpore sano.

The principal conditions necessary for preventing disease, and which every reasonable being has more or less the ability of complying with, may be thus enumerated: a supply of pure air—a sufficiency of food and

clothing—a healthful exercise of the various organs of the system—a proper temperature—a due regulation of the temper, appetites, and desires—cleanliness—exemption from harassing cares—participation in cheerful and innocent amusements.

Air.—A constant supply of pure air is indispensable to the arterialization, or preparation of the blood in the lungs, and, consequently, to the preservation of life. To enable the reader to understand how these important changes take place in the composition of the circulating fluid, it is necessary to premise that common air is composed of two gases, in certain proportions—namely, oxygen, or vital air, as twenty-two, and nitrogen, or azotic gas, as seventy-eight, parts in a hundred, with the addition of a minute portion of carbonic acid, or fixed air.

The atmospheric air, when inspired, consists of the component parts just stated, but after its passage through the lungs, it is expired in a very different state; for on the air reaching the lungs, about two-fifths of the oxygen enters into combinations with the carbon of the venous blood, and is mixed with the circulating fluid, the remaining three-fifths, being exhaled along with the nitrogen, nearly in the same state as it was originally received. In place of the oxygen consumed, there is expired an equal volume

of carbonie acid gas, which had been generated in the system; and when this gas exists in a larger proportion than is proper in a confined apartment, the atmosphere bccomes of a noxious character, and is rendcred unfit to bc again breathed. It has been ascertained that a healthy adult brcathes from fourtcen to twenty times in a minute, and that from twenty to forty cubic inches of air are inhaled at each inspiration; consequently about sixty hogsheads of air will pass through the lungs in the coursc of four and twenty hours.

During the time we were at Paris, several interesting inquiries were instituted upon the component parts, and effects, of the vitiated atmospheres of crowded rooms and assemblics. In the Hôpital la Pitié, the air of one of the wards occupied by fifty-four patients contained five times morc carbonic acid gas, than is found in common air; the same results attended investigations made, under similar circumstances, at the Salpêtrièrc. In Professor Dumas's class-room, after a lecturc of an hour and a half, where nine hundred persons were present, the carbonic acid amounted to one per cent. This is agreed to be the maximum quantity for safety. Lablanc found that a candle was extinguishcd in air containing four and a half or six per cent. of carbonic acid. In sueh an atmosphere it has bccn asccrtained that an animal will live for a short time, apparently

without experiencing inconvenience; but, in proportion as the consumption of oxygen and the exhalation of carbonic acid proceed, the breathing becomes oppressive, and, after great gasping and struggling, the animal in a few hours dies. We can confidently assert, that upwards of three per cent. of carbonic acid often exists in the atmosphere of our London theatres, crowded offices, and workshops, in which a constant renewal of fresh air is rendered the more necessary, in consequence of being almost universally lighted with gas, one burner of which will consume more oxygen, and give out more carbonic acid, than seven or eight candles. Every breath we draw in, under such circumstances, it ought ever to be remembered, is detrimental to health.

We are glad to see that the necessity of a regular supply of wholesome air, wherever living beings are congregated, is now more understood and appreciated, for it must be admitted that the important subject of ventilation has been hitherto too little regarded, not only by the public, but even by the medical practitioner, whose treatment of disease is oftentimes rendered abortive by inattention to this point. As Dr. Arnott well expresses, in his admirable work on Ventilation, "These aërial movements are to man what the constant gliding past of a clear river stream is to the fishes which inhabit

it; and as certainly as we should destroy the trout of a stream by confining them in a small portion of their watery element, until it became a dirty putrid puddle, or as we should distress and injure them by confinement and privation in a less degree, so do we destroy or injure human beings, when we too closely confine around them a portion of their aërial element."

The atmospheric air is deteriorated by various other circumstances, such as miasmata, or effluvia proceeding from putrid fermentation of animal and vegetable substances, which are so frequently allowed to accumulate in the narrow streets and alleys of large cities —from collections of muddy water—and the asphyxia from the common sewers, and badly constructed drains. These baneful exhalations are taken up by the absorbing vessels of the lungs and skin, are carried into the system, and produce the same injurious effects as if introduced into the stomach. The different metallic vapours and dust, more especially those containing lead or mercury, and various simple and compound gases, to which gilders, workers of brass, tin, and bronze, glass-blowers, miners, and others are exposed, are frequent sources of pectoral diseases, by creating a morbid impression upon the nerves of the lungs and air passages, and by obstructing or preventing the necessary changes from taking place in the constitution of the blood.

Millers, dressers of flax or feathers, knife-grinders, and others, are, therefore, obnoxious to these results, by inhaling the numerous minute foreign particles with which the air they breathe is charged, which, by producing irritation in the structure of the lungs, eventually lead to the development of pulmonary consumption.

Food.—As pure air is the first great requisite for free and salutary respiration, so the second is the supply of rich and wholesome blood from proper food, for the sustenance of the frame and the preservation of health.

The stomach appears to be the great characteristic between the animal and vegetable kingdoms; for the nutritive system of animals, from the humblest to the highest, has its cavity, or alimentary tube, adapted for digestion; that is, converting its food into chyle, and then into blood, which latter being circulated throughout the whole frame, by means of the different vessels, serves to supply the daily waste which takes place by the various secretions. The stomach is the seat of universal stimuli and irritability, and from the intimate connexion existing between this organ and the whole system, any diseased action of mind or body is capable of creating a disturbance of its office, and so exciting general or local disease. Seeing, then, the important

part the organs of digestion perform in the whole animal economy, it must be evident that unwholesome food, or anything calculated to disarrange them, ought to be most studiously avoided.

It is not our intention to enter into the minute composition of the numerous articles of diet, or to recommend any particular rules as to quantity, or the time of taking them; for every day's experience shows the absurdity of constructing an universal standard upon such matters, so much depends upon age, sex, activity of life, and individual peculiarities. Generalisation in dietetics is all that can be done, for, as Van Swieten truly remarks, "to assert a thing to be wholesome, without a knowledge of the person for whom it is intended, is like a sailor pronouncing the wind to be fair, without knowing to what port the vessel is bound." We may, however, generally remark, that "fish, flesh, and fowl," are all calculated for the sustenance of man; but the more minute and tender their fibre, the more capable is the gastric juice of assimilating them. The red meats, as mutton, venison, and beef, are the most nutritious, and easily digested when the health is vigorous; but as they excite the pulse, and are apt to induce a slight degree of fever, they are improper for convalescents or valetudinarians. The white meats, such as veal, chicken, &c., are less exciting, and hence

called lighter, but they are not so nutritious as the former. Fatty and oily aliments, as geese, pork, ducks, and eels, should be eaten with caution, as they are found to disagree with the nervous, bilious, and hypochondriacal. Fried and baked meats, and stewed dishes, more especially when prepared a second time, are more difficult of digestion than when roasted or boiled. Smoked and dried provisions, from which a poisonous product is occasionally evolved, and shell-fish, are objectionable; so also are pastry, oily dishes, unripe and stale fruits, particularly those which consist of nuts, such as almonds, filberts, &c. Farinaceous food, as arrowroot, tapioca, and sago, are digestible, and well adapted for invalids. Potatoes are wholesome; but green vegetables and fruits, however carefully prepared, are sometimes found difficult of digestion. From experiments it has been ascertained there is little or no difference perceptible in the chyle produced from vegetable or animal matter; but it is well known that animal food yields, in a given bulk, much more nutriment than is derived from vegetables. In this climate, a mixed diet is desirable, for animal food alone would prove of too stimulating a nature.

It is not, however, sufficient that attention should alone be directed to a judicious selection of articles of diet, but it is equally to be remembered that nature

requires a certain quantity only. The primary object of taking food being that of repairing the continual waste of the animal substance, any overloading or over-exciting the stomach, from a false appetite, produces a redundancy of blood, and thus predisposes to as many diseases as does an innutritious or unwholesome diet from a paucity of this fluid. The old Latin proverb is a very true one—*Plures crapula* (*necat*) *quam gladius*—"we are shocked on hearing of the multitudes mowed down by the scythe of war; but we do not notice the silent and wide spreading destruction, with which gluttony and excess thin the ranks of private life." Too much attention cannot be paid to this point by those persons labouring under, or predisposed to, pulmonary diseases, for excessive food, it is well known, not only exasperates them, when existing, but oftentimes induces them. Dr. Wilson Philip truly remarks, "all persons should carefully attend to the first feeling of satiety. There is a moment when the relish given by the appetite ceases; a single mouthful taken after this oppresses the stomach. If he eats slowly, and carefully attends to this feeling, he will never overload the stomach." It is important that food should be well masticated, so as to be mixed with the saliva, before being swallowed; for if presented to the stomach half-chewed, it cannot be properly acted on by the gastric juice; for

besides the benefit arising from minute comminution and subdivision of the particles, the abundant secretion of saliva which mastication occasions, mixes with the pulpy matter during chewing and deglutition, and brings it at once under the digestive process, throughout every part of the mass. When the teeth are bad, the meat should be cut very small, or broths, soups, and jellies substituted, as these contain much nutriment, and are presented, as it were, in a state of semi-digestion.

With regard to dilution during meals, we should remark that when the diet is vegetable, or soft and abounding in moisture, then little or no drink is absolutely requisite; but when the food is solid, hard, and concentrated, or when eaten too fast, and not mixed with sufficient saliva, then a reasonable proportion of fluid softens, divides, and dissolves certain aliments, and thus aids their chylification, and their passage from the stomach into the intestines. Should, however, the food be too much diluted, then the gastric juice may be so greatly weakened and separated, as to be disabled from acting with sufficient effect on the substances submitted to its operation. The beverages in common use are the source of many diseases: all those containing large quantities of alcohol, such as brandy, whisky, gin, or wine, are frequently injurious to the digestive powers. The most wholesome spirit is, perhaps, the genuine

Cognac brandy, and, of the wines, port and sherry are the best adapted for this climate; but delicate persons should take them diluted. Of malt liquors, we have found Bass's pale ale tonic and the least stimulating; and, to those whose diet is not very nutritious, may be generally recommended as an innocent and wholesome beverage; but caution and discretion are necessary when resorting to this or any other liquors, as some plethoric constitutions are so disposed to an inflammatory state, that congestions, and the various contingent diseases, are frequently produced by their continued use. Liqueurs and cordials are generally made up with injurious narcotics, and ought to be avoided.

Fermented liquors, by their highly stimulating effects upon the nervous system and the circulation, are a very common origin of functional and structural diseases of the lungs, heart, stomach, liver, brain, and other viscera. During our parochial practice, it was observed by us, that upwards of 65 per cent. of the diseases were produced by the abuse of fermented liquors; and it is an ascertained fact, that diseases proceeding from intemperance are liable to become hereditary, even for many generations, and gradually to increase in intensity, if the cause be continued, until the family becomes extinct. When this truth is more

generally known and regarded, a great decrease in pulmonary diseases will ensue.

Coffee, tea, and cocoa are wholesome drinks; they are found, it is true, to occasionally disagree with some constitutions, but their salubrity is now so firmly established, as to outweigh any argument to the contrary founded on individual cases.

Clothing has great influence in creating a predisposition to diseases of the respiratory organs, and ought to be regulated according to the temperature, and the season of the year. In this variable climate, at all times, flannel should be worn next the skin; which keeps the surface of the body warm, and prevents the pores of the skin being clogged up, by the absorption of the oleaginous and aqueous secretions which are constantly exuding from the body. In some persons, flannel produces a too copious perspiration; in such cases, merino, or elastic cotton, may be advantageously substituted. But while guarding ourselves against the impressions of a variable temperature, we must be equally careful not to fall into the opposite extreme of employing an undue quantity of clothing; which, by retaining too much heat, inordinately stimulates the nerves of the skin, and consequently the internal organs become disordered by being thus deprived of their natural nervous energy, and of the power of

performing their healthy functions. The same remarks are equally applicable to overheated rooms; and to warm soft beds, which, however comfortable they may be to our feelings, relax and weaken the frame, and render the lungs and air-passages much more susceptible of injurious impressions from without.

The fact of diseases of the lungs and heart being more prevalent among the fair sex, may be partly accounted for from the flimsy, insufficient, half-dress, which fashion has imposed upon them, and the baneful practice of tight lacing, which happily has now often been exposed. The importance of a regular and full expansion of the chest for preserving the organs it contains in a healthy condition, as well as the influence exerted through these organs on the entire system, must be at once evident to any one who will give the subject one moment's consideration. The lungs require a healthful exercise, equally with the limbs and other parts; and if we desire to maintain them in a vigorous state, they must be unfettered in their action, either by dress or position, to insure a healthy fulfilment of their allotted functions. But how can the chest perform its required duties when impacted in the common stay? When thus dressed, the muscles which expand and contract the chest cannot be brought into action, and the due dilatation of the lungs is prevented;

the respiratory and circulating organs being impeded, congestions take place in the vessels of the lungs and heart, and elsewhere, as in the arteries of the head, from which a numerous train of diseases follow. The mischief proceeding from this reprehensible practice is not limited to the respiratory and circulating systems—the lower ribs being unnaturally bent in, the stomach, womb, liver, and other organs are injured thereby; and hence arise, in women, not only a host of diseases, but spinal curvatures, and other deformities, which endanger their own lives and those of their infants during parturition. We have no hesitation in saying, that some thousands of lives are annually sacrificed to this horrible fashion.

Exercise.—It is well known that the strength and development of muscles increase in proportion to their healthful exercise, and that when deprived of action they waste and become enfeebled; and, by continued disuse, the nerves become changed from their natural structure, the blood-vessels are obliterated, the bones are softened, and the contractive power of the muscles and their appearance are altogether lost. From the construction of the human form it is clear that man was intended for an active existence, and if we do not live in accordance with these intentions of nature, a sound state of the energies cannot be maintained. A sedentary

life is the bane of millions, and the frequent existence of nervous disorders, more especially among the higher classes, may be attributed, in a great measure, to this want of muscular activity.

All persons should accustom themselves to take daily exercise in the open air, the extent of which must, of course, depend on circumstances, such as the state of health, the strength, and habits; but, as a general rule, all those in health should be so employed at least for two hours daily. Horse and carriage exercise, gymnastics, sailing, and rowing, by which the mind is amused as well as the body exercised, may be adopted with great advantage in the incipient stages of consumption. But of all means for exercising the body, walking is decidedly the most beneficial; it is that which nature intended for us, and there is no other accompanied with such an uniform and regular exercise of the muscles and joints; and, from the valvular structure of the veins of the extremities, it is better fitted than any other to promote the circulation, and consequently all the functions of the system.

Sir James Clarke recommends the following plan as well calculated to expand the chest, and give tone to the important organs contained in it: — "We desire the young person, while standing, to throw his arms and shoulders back, and, while in this position, to inhale

slowly as much air as he can, and repeat this exercise at short intervals several times in succession. Some exercise of this kind should be adopted daily by all young persons, more especially those whose chests are narrow or deformed, and should be slowly and gradually increased."

A moderate use of the vocal organs materially contributes to strengthen the lungs; hence we see that players, lawyers, and public speakers undergo great exertion without inconvenience, and are less liable to pulmonic disease than persons of other occupations. But care must be taken that the labour be not carried too far, for over-exertion may irritate the lungs—*medio tutissimus ibis.* Young people in whom there exists an hereditary or acquired predisposition to consumption, usually discovered by the formation of the chest and other circumstances, will derive very great benefit by directly exercising the pulmonary organs by a regular use of the inhaler.

When the object of inhaling is to act as a preventive of disease, by overcoming natural debility or want of healthy action of the lungs, we have found an apparatus, which we term THE PULMOMETER, of signal advantage.

The mode of using the Pulmometer consists in making a deep expiration and immediately afterwards inspiring, or "sucking up," by one continuous breath, as far as

can be borne without inconvenience, the air which is contained in a graduated jar, inverted in a trough of water—as the air is exhausted so the fluid rises in the jar. Persons labouring under disease of the lungs will not "pull up" (as our patients sometimes significantly express it) more than two or three pints, whereas eight or nine pints may, without difficulty, be displaced by those having healthy and powerful lungs.

We have frequently observed in patients of naturally weak and sunken chests, who have inhaled for a short period, a most marked and beneficial change take place in the external appearance of the thorax; for not only are the lungs themselves expanded by means of the dilatation of their cells, formerly compressed, but the ribs become elevated, and the muscles concerned in breathing acquire a greater degree of power and volume by this increased action of their parts. That the pulmonic system may be strengthened by artificial means, is in some measure exemplified by the extraordinary powers of the lungs which characterise the inhabitants of mountainous countries, where, from the frequent ascent of acclivities and the necessity of deep and continued respiration, the general power of the pulmonic system is so much invigorated, that they are enabled to bear an amount of fatigue which those unaccustomed to such exercise would speedily sink under.

Temperature has a most sensible effect upon the distribution of the nervous energy and the functions of all the organs, and more particularly has great influence upon the production of tubercles. It has been remarked that a warm and humid state of the atmosphere greatly predisposes to pulmonic disease; and that heat remarkably diminishes the changes which take place in the blood by respiration, especially when combined with moisture. A dry state is most favourable in aiding respiration to effect healthy changes upon the circulating fluid; a very moist state has the contrary effect. A moderately cold and dry air, or, as it is termed, a "bracing air," is the most favourable for respiration, and generally increases the tone and energy of the system.

Seeing the direct influence of temperature upon the respiratory organs and the system generally, it will be apparent that too great care cannot be bestowed in guarding ourselves as much as possible against this variable climate, by preserving an equable temperature within and out of doors. The Respirator has proved a most valuable auxiliary in the prevention and treatment of diseases of the air-channels. Asthmatic, and other patients, when thus protected, are enabled to take exercise in all seasons and weathers.

Were persons to pay more attention to their clothing,

and better regulate the temperature of their houses, pulmonary and other diseases would be of much less frequent occurrence; for we are more injured, as Sir James Clark sensibly remarks, by the variations of temperature *created by ourselves* than by the actual vicissitudes of the climate.

Change of Air, from a very remote period, has been regarded as a most important preventive and remedial agent in diseases, and more especially in those affecting the respiratory organs. The reasonableness of a removal from an atmosphere loaded with deleterious particles to the pure country air; from a bleak, exposed spot to a sheltered part; or from a low, marshy situation to a dry, elevated place; is now generally admitted. Who has not, indeed, experienced in himself or observed in others the beneficial effects of country air in restoring the energies of the frame when worn down by disease or anxiety of mind? That the advantages derivable from change of air are now duly estimated is proved by the almost deserted appearance of the metropolis and other large cities at certain seasons of the year, and the crowded state of our watering-places, which have so greatly increased in size and number within the last few years.

Change of air, however, to be beneficial must be employed with due regard to the locality of the situation

chosen, and be regulated according to different constitutions, and the stage of the disease which renders a removal necessary. With some persons a sheltered spot, with a mild air, will be proper; with others, an elevated situation, with a sharp bracing air, will be desirable; and sometimes a residence at the sea-side is advantageous. The importance of duly considering the local features of the places visited by invalids has been too often overlooked by medical men; and hence, change of air, instead of being attended with benefit, oftentimes proves highly injurious. The Devonshire coast is about four or five degrees higher in temperature than London, and is generally best adapted to those predisposed to, or labouring under, chronic diseases of the chest. Sidmouth, Dawlish, Salcombe, and Torquay, particularly the latter, are sheltered from the north-easterly winds, and are most desirable as a residence, on account of the mildness and salubrity of their climates. The scenery around these parts is highly beautiful, and the county generally fully deserves the character it possesses of being the "Garden of England;" which circumstance we consider of no slight importance, for we frequently find that a journey to an interesting country effects much good by the beneficial excitement it gives to the mind. During our practice in Devonshire, we observed that the proportion of consumptive cases was consider-

ably below the average afforded in all other parts of England. The west and south-west of France furnish several eligible places for the invalid to sojourn at, particularly Pau, which is situated at the base of the Pyrenees, and is remarkable for its mild and even temperature. Rome, Pisa, Naples, Nice, Montpelier, and Hyères, are much frequented by invalids, and occasionally with advantage; but, of all other places, *Madeira* is unquestionably the best suited for consumptive patients—not only on account of its soft and equable climate, but from its easy access from this country, and the domestic comforts and accommodations which may be obtained there. The mean annual temperature of Funchal, the capital of the island, is about 5° above that of the south of France and the Italian climates; and the heat is so equally distributed, that while in the winter it is 20° warmer than at London, in the summer it is nearly 5° cooler. We have seen great and permanent benefit derived by patients, in the very early stage of consumption, from a residence in this climate, and in those persons who have been threatened with the disease; but when the complaint has made great progress, it is both cruel and useless to send patients long journeys, for the fatigue and inconvenience attendant upon them, added to the distress of mind produced by the banishment, and the deprivation of the domestic comforts and

attentions of home, are only calculated to hasten a fatal termination.

Cleanliness is highly requisite for the preservation of health. It is calculated that from one to two pounds of matter is carried off by the pores of the skin, in the course of four and twenty hours, being the chief portion of what is termed the 'waste' of the system, the remainder passing off by the lungs, bowels, and kidneys. Should the pores be clogged up by an accumulation of matter, the egress of the perspiration is prevented, and the residual parts are again introduced into the system by cutaneous absorption, from which many diseases ensue, more especially catarrhous affections, which not unfrequently terminate in consumption. Sponging the body, more particularly the chest, with vinegar and water, or salt and water in the proportion of one or two ounces to the pint, the shower-bath, regular friction with the flesh-brush or a coarse towel, are all highly useful in promoting the general health, and overcoming that sensibility to cold, of which persons of a consumptive habit so frequently complain. Patients of a weakly habit on first commencing this practice, particularly in the winter, should commence with tepid water, and gradually reduce the temperature. The best time for using ablutions is immediately on getting out of bed.

The Passions and Moral Sentiments, through the medium of the nervous system and circulation, operate most powerfully upon the functions of all the organs of the body; and it is well known that any circumstance which depresses or excites the system, if long continued, frequently terminates in disease, more particularly of the lungs and heart. Dr. Southwood Smith truly remarks, that "it is impossible to maintain the physical processes in a natural and vigorous condition if the mind be in a state of suffering. Every one must have observed the altered appearance of persons who have sustained calamity. A misfortune that struck to the heart happened to a person a year ago; observe him some time after — he is wasted, worn,— the miserable shadow of himself: inquire about him at the distance of a few months — he is no more!"

Any circumstances operating upon the manifestations of mind, whether proceeding from the exciting or depressing passions, or arising from an inordinate indulgence of the faculties, deeply affect the physical condition, and as life itself is dependent upon the physical condition, so it follows that they are capable of influencing the duration of life.

A proper regulation of the intellectual faculties, and those feelings, appetites, and passions, which an all-wise Providence has granted for our enjoyment and happi-

ness, by laying the foundation of habits of judicious self-control—the pleasant excitement of business, joined with innocent amusements, together with an approving conscience of living in accordance with the conditions designed by the Creator, are the best means of not only averting disease, but of securing our welfare and prosperity in life.

"——— Servare modum, finemque tueri,
Naturam sequi."

CHAPTER VI.

THE TREATMENT OF DISEASES OF THE LUNGS, AIR PASSAGES, AND THROAT, BY MEDICATED INHALATIONS.

From the earliest ages, Consumption, and the numerous other diseases to which the lungs and breathing tubes are subject, have engaged the attention, and prompted the unremitting study, of medical writers of the greatest eminence—many learned disquisitions have been penned upon the pathology and diagnosis of those complaints—but when the subject of *treatment* has been entered upon, the tone has invariably been hopeless and desponding.

The utmost variety of opinion has been expressed as to the probable, or rather possible, efficacy of the different remedies which have from time to time been suggested—remedies which, we fear, it must be admitted have hitherto done but little to advance the reputation of the profession, or to lessen the amount of human suffering and mortality. "If," says Dr. Paris, "we turn to the pages of Etius or Celsus, and contrast their

methods of treatment with those of the present times, we shall have no cause, perhaps, to boast of our superiority." And Sir James Clark observes, "We have no reason to believe that the physicians of the present day are more successful than their predecessors were ten, nay, twenty, centuries ago." Indeed, the impression entertained, both by the profession and the public, appears to be, that consumption is certain death; and thus the well-known sarcasm of the great Samuel Johnson is nearly realized, that "Physic is but a meditation upon death."

The warm and genial atmosphere of the coast of Devon, the milder air of southern climes, the renovating breezes of the sloping hills of Madeira, are the sole remedies recommended by the great mass of practitioners of the present day, and are still resorted to by most of those patients who can afford it. Nature has been left nearly unassisted, to do the work of the physician. But what has been the result? The transportation may fan the flickering flame of life and reanimate the system, as a tender plant may suddenly revive when removed from the chilly vicissitudes of the open air and transferred to the hothouse, and the disease has often been alleviated. The trifling diminution of positive physical suffering and inconvenience which has thus been produced, ought not to be overlooked; but no *cure* has been effected,—

the snake has been "scotched, not killed;" and although life may be prolonged in the delicious atmosphere of some foreign climate, yet the death which almost invariably ensues is a premature one. Expense has been useless, and expatriation unavailing. But when we contemplate the case of those who cannot afford even the poor and uncertain, though expensive, experiment of a removal from home and country, how infinitely more fearful and hopeless is their case!

As evidence of the prevalence of pulmonary disease, we have mentioned that the bills of mortality show that, upon an average, 8000 persons in the metropolis, and about 60,000 in the United Kingdom, annually fall victims to this scourge of our species.

When we reflect upon these fearful truths, and the impossibility, under the ordinary treatment, of curing, or even staying the progress of, this mighty disease (whose terrible inflictions have rendered desolate so many thousands of happy homes, and whose ravages have rather increased than diminished with the advance of civilization and luxury), we may fairly presume that any remedial means calculated to avert the fatal termination of this destroyer of our fellow-creatures will be hailed as an invaluable boon; and that individual must indeed be inaccessible to the dictates of humanity, who does not embrace every opportunity of directing attention

to any circumstance, or mode of treatment, which may be calculated to accomplish that important object.

Endued with these feelings, it is a source of unmingled satisfaction and pleasure to us to be able confidently to assure the public, and the profession, that there is now a well-grounded hope of recovery for the afflicted, and that consumption is no longer to be considered beyond the reach of the medical art—as the *opprobrium artis medicinæ.* Science has at length fairly grappled with this inveterate enemy to mankind, and has triumphed. We shall incontrovertibly show, not by theoretical speculations, but by facts furnished by the experience of highly talented practitioners and of ourselves, that pulmonary consumption, in certain stages of the disease, is positively curable, and that under the most adverse circumstances it is possible to afford extraordinary alleviation of suffering by a judicious use of medicated inhalations.

But while we confidently assert that consumption may be cured, let it not be supposed that we regard inhalation as a catholicon, possessed of the power of overcoming the disease in every stage, and under all circumstances. We are too well aware of the extreme danger always attending this malady to advance such a statement, which would be contrary to the results of our experience and inimical to the cause of truth. We fully admit the

formidable character of pulmonary disease, and the utter uselessness, in very many instances, of the best directed efforts to oppose its progress; but, surely, occasional failures cannot be used as an argument against our mode of treatment, inasmuch as all remedial means so frequently fail in complaints affecting the liver, stomach, womb, kidney, and other organs, with the proper treatment of which the members of the profession generally are well acquainted.

In order also to prevent any misconception on the matter, we deem it expedient in this place explicitly to state that, although we are no advocates for drenching the system with powerful and uncertain medicines, we do not entirely discard those in general use, many of which, with due caution and circumspection, may be occasionally employed as auxiliaries to inhalation,—regard being paid to the varied symptoms and constitution of the patient,—with the greatest benefit. We say *caution*, for it is indubitable that many medicines which are commonly administered in these cases for suppressing coughs, &c., are with difficulty acted on by the stomach, and produce irritation of the lining membrane of that organ, and, as Andral, Larroque, Johnson, and others besides ourselves have observed, thus do irreparable mischief to the system generally; for the injurious effects of the remedies frequently not only

destroy the stomach and all that was previously sound, but actually increase the cough and pectoral suffering they are intended to alleviate.

The author also wishes to impress upon the mind of the reader that it is not only in Pulmonary Consumption that inhalation is available; it is equally valuable in Bronchitis, Asthma, Croup, Chronic, Nervous, and Spasmodic Cough, Inflammation of the Throat, Uvula, and Larynx, or in any acute or chronic complaint affecting the mucous membrane of the throat, air passages, or substance of the lungs.

Inhalations of medicated vapours were much employed by the ancient physicians, and can be traced as far back as the second century, when Galen[a] sent consumptive patients to the vicinity of Mount Vesuvius, to inhale the sulphureous vapours which arise from the soil; and it has been supposed that the early use of incense and various aromatic fumes in religious rites, originated from their well-known prophylactic effects on disease; which surmise is rendered the more probable when it is remembered, that the priests at that period exercised the healing art. But the remedies resorted to in these earlier times were, comparatively speaking, of little value, and to their inefficiency may be attributed, in a

[a] De Difficult. Respirat., lib. i., ii., iii.; et De Locis Affectis, lib. iv., cap. 7.

great measure, the neglect which subsequently befel this mode of treating disease. The system was a right one, but it was improperly applied. Almost all important remedial agents have been the production of more modern experience and investigation, the administration of which by inhalation may be said to constitute a new mode of treatment; and the hope may *now* be reasonably cherished, from the rapid advances which pharmaceutical chemistry has recently made, that pulmonary consumption will shortly be admitted, not by a few individuals, but the whole body of the profession, to be as much under the control of the art of medicine as is any other formidable disease.

Among the ancient and modern authors, who have successfully employed inhalations of medicated vapours, may be mentioned Hippocrates,[b] Cœlius Aurelianus,[c] Alberti,[d] Thilenius,[e] Zallony, Mudge, Crichton, Beddoes,[f] Hufeland, [g] Laennec, Pearson,[h] Elliotson, Forbes,[i] Copland,[j] Murray, Gannal,[k] Hastings, Cotter-

[b] De Morbis Chron., lib. i., iii.
[c] Dissert. de Spirandi Difficultate.
[d] Med. und Chirurg. Bemerk.
[e] Traité de l'Asthmé.
[f] On the Medicinal Use of Factitious Airs.
[g] Jour. der Pract. Arzneyk.
[h] A Treatise on Disease of the Chest. Translated by Forbes.
[i] Medical and Physical Journal, vol. xlviii.
[j] Dictionary of Practical Medicine.
[k] On the Inhalation of Chlorine.

reau, Scudamore, Coxe, Corrigan, Harwood,[1] Wilson, and Thomas; who, being aware of the futility of a reliance on the usual modes of treating diseases of the respiratory organs, have thus laboured to extend the resources of the healing art.

As corroborative evidence of the value of pneumatic medicines, we have extracted from these learned authors many interesting and valuable remarks; and, from the high position they have deservedly occupied in the ranks of the profession, their testimony is eminently calculated to add great weight to this simple and efficacious method of practice.

We shall commence our references by the following extracts from a Treatise, written by the celebrated John Mudge, in the year 1780, entitled, "A Radical and Expeditious Cure for a Recent Catarrhous Cough." "Every medical discovery," Dr. Mudge remarks, "has certainly a claim to the public attention; for though, on a superficial view, the disease should seem slight or the treatment trifling, yet, when we reflect that the welfare of the great body of mankind is concerned, deriving importance from that consideration, it swells into importance. Upon the whole, if the remedy here proposed, when early applied and properly directed (for on both these its success entirely depends), shall

[1] On Diseases of the Throat and Chest.

be found effectual, it will immediately and radically cure a complaint very troublesome and fatiguing, as it frequently harasses the patient some weeks. I shall not enlarge upon the probability there is that one part of this curative process, the use of the Inhaler, may be extended to other beneficial purposes; though it seems by no means ill adapted to asthma, and pulmonary diseases. Indeed it was from a conviction that the catarrhous cough arose from some degree of actual inflammation of the pituitary lining of the organs of respiration, that the idea of this species of cure was first suggested; for, if the disorder of the membrane is only the effects of a cause which is topical, sudden, and temporary, it becomes reasonable to suppose, that a well adapted local remedy would be productive of the same good consequences in this, as in other species of inflammation."

Dr. Mudge believes that the two great indications of preventing an increased irritation by the cough, on the inflamed parts, and removing inflammation itself, are more thoroughly and quickly accomplished by inhaling warm steams into the lungs, than by any other remedy; and describes the effects of this mode of treatment, especially if used the same day the cold is contracted, "as a sure and in general an almost immediate cure; as I have," adds Dr. Mudge, "all my

life, from tender lungs, had a propensity on taking cold to a severe cough (which, in the ordinary course of it, used to harass me for three weeks or a month, and sometimes much longer,) I was induced to make myself the first subject of the experiment. The night the remedy was first used, was passed without the least tendency to cough; and the next morning, by one or two gentle efforts, a small quantity of concocted matter was discharged, without the least disposition to cough afterwards; notwithstanding which I could not be persuaded the whole succeeding day, that the cough was radically cured, and accordingly was in expectation of its return, which however did not happen."

The efficacy of simple inhalations was subsequently much lauded by Bartholin ("Hist. Anat.," cent. iv., hist. 88, lib. iv.—"Pulmonum remedia quomodo adhibenda"), and by Buchoz, in his "Treatise on Consumption." Dr. Mackintosh, in his "Practice of Physic," says, that inhaling the vapours of warm water is highly serviceable in cases of bronchitis and croup, and affords more ease than any gargle in the sore-throat which accompanies scarlet fever.

We frequently employ in influenzas, catarrhs, and many other minor affections of the kind, inhalations of the vapour of hot water, or mucilaginous infusions, combined with a little hyosciamus or conium, and have

generally found that they immediately and effectually overcome, by their soothing effects upon the exhalent vessels of the mucous membrane of the air channels, the cough, which is usually dependent upon irritation in those parts; and also the sore-throat, inflammation of tonsils, and other troublesome attendants of a severe cold. These simple means, we have reason to believe, by quickly subduing irritation in the bronchial mucous membrane, have oftentimes prevented the development of tubercular disease. Public speakers, who are liable to hoarseness, proceeding from relaxation of the chordæ vocales, or muscles of the organ of voice, will obtain immediate relief from anodyne inhalations. These local applications mitigate irritation precisely on the same principle as do fomentations applied on the surface of the body, which, it is known, are frequently more efficacious in restoring healthy action than any other means.

Dr. Willson has published in "The Lancet" (vols. i. and ii., 1841-42) several interesting papers on the beneficial effects of medicated inhalations in pulmonary consumption. With respect to the scepticism with which this mode of treatment has been regarded by some members of the faculty, Dr. Willson says, "I know full well the extreme difficulty that presents itself of combating the old and confirmed prejudices, entertained by the majority of my profession and the public, against

the curability of consumption, and I must admit that medical records but serve to strengthen such conclusions; but an enlightened and liberal profession should be open to conviction, free to embrace facts, and earnest to solicit inquiry. We have seen to what a surprising extent prejudice has blinded us to the most valuable remedial agents. Many of our best medicines were popular remedies, before the medical world would admit them into their vocabulary. Iodine, to a great extent, shared the same fate; and the physician who had the hardihood to recommend the internal use of cantharides was prosecuted, and suffered the penalty of his sagacity—but taught his followers the safety and value of his practice. Doubtless a new system of treatment should be received with due caution, but divested of all prejudice. If certain results and certain facts are stated, a fair trial of their intrinsic worth should be made, and particularly if they refer to a disease which, to a sad extent, has baffled medical skill, and defied the ingenuity of the greatest talent."

No one deprecates quackery in every shape and form more than ourselves, but we must say, that when the generality of practitioners are confessedly incapable of combating the ravages of pulmonary diseases, it is neither consistent with reason nor humanity, to expect that the public will stand supinely by, and see the

inroads of disease unchecked or unalleviated, and leave their friends or relatives a prey to misery and despair, without making one effort to arrest its progress or cheer the mind by giving trial to new remedies and modes of treatment, especially if supported by reputable testimony. Narrow-headed men, with narrower minds, may whisper obstacles and superciliously condemn a new proposal, and pronounce without inquiry or any opportunity of seeing or judging of what they advise others to reject: but the abuse or discountenance of such members of the profession can avail but little, and only proves that such persons must be not only contracted in their ideas, but regardless of the advantages of their patients or the advancement of their profession. The realities, however, of inhalation are now by far too numerous and too well attested to be put down by contumely, or even by indifference; and we doubt not but that from the number of authentic instances, which we almost daily receive, of its applicability to the treatment of pectoral diseases, that such an amount of evidence will soon have been amassed, as to shake the belief of the most inveterately sceptical, for in the investigation of truth the illustrations of its principles are never insulated; and however one manifestation of its presence may be kept from receiving general acceptance by the efforts of prejudice, others will present themselves

with a constancy which shall render their distinctive characters as incontrovertible as their real existence.

Delpit, in the article Phthisis Laryngea in the Dictionnaire des Sciences Médicales, thus concludes: "S'il est une espèce de phthisie où les fumigations simples ou composées puissent devenir utiles, c'est sans contredit celle du Larynx, plus accessible à ce genre de remèdes, et par conséquent plus susceptible d'en ressentir l'impression favorable ou funeste. Le phthisique est d'autant plus difficile à traiter, qu'il est devenu susceptible des impressions les plus légères, soit physiques, soit morales; perdant avec la même facilité le repos du corps et le calme de l'âme, il est dans une anxiété continuelle, il désire des alimens, et ceux-ci lui donnent le dévoiement; il veut sortir, et l'exercice le fatigue; il demande des remèdes, et il ne peut les avaler; il boit, et la toux le suffoque; il appele la santé de tous ses vœux, et la mort le mine sourdement. En vain le médecin varie chaque jour ses conseils, et ses prescriptions, le terme ou l'objet de l'espérance qu'il donne sans la partager; en vain il laisse entrevoir l'influence de la belle saison, le baume restaurant de la végétation nouvelle, de l'air salutaire des champs; en vain il indique un voyage dans un climat plus chaud, ou vante les effets merveilleux d'une eau minérale, et en promet l'infaillible succès; le malade est toujours disposé à reçevoir toutes les promesses, à se bercer de toutes les illusions, à s'abandonner à tous les

projets ; mais la belle saison passe ou arrive, la végétation se ranime ou s'éteint, les feuilles tombent ou poussent ; la nature fait éclore les fleurs ou prépare la maturité des fruits, elle dépouille les arbres ou renouvelle leur parure ; toutes ces révolutions sont également funestes, et ne servent qu'à marquer le moment où le phthisique descend dans la tombe, occupé de projets et nourri d'illusions."

In the same work, article Inhalation, by Rullier, are the following remarks, which are important as referring to one of the modes by which we are enabled to account for the beneficial effect produced by the local application of remedies to diseases of the lungs.

" Les vapeurs animales exhalées des chairs et du sang encore chaude des animaux, et mêlées à l'air que nous respirons, ainsi que les émanations des cuisines et des étables, regardées avec raison comme propres à favoriser le bon état de la nutrition chez les bouchers et les cuisiniers, ou à rétablir l'embonpoint de certains malades ; l'humidité de l'air atmosphérique, qui diminue le besoin de la soif, et retarde les funestes effets de la faim prolongée, produisent sans doute une partie de ces effets à l'aide de l'absorption des voies aériennes, devenue alors vraiment congénère de l'absorption cutanée.

" L'absorption de la membrane muqueuse des voies aériennes est justement regardée comme une cause puissante de la communication de celles des maladies

contagieuses dont le principe réside dans l'atmosphère. L'histoire des phénomènes de l'asphyxie par la plupart des gaz délétères, tels que l'hydrogéne sulfuré, le plomb des fosses d'aisances, ou l'hydrosulfure d'ammoniaque, ne permet pas de douter que ce soit moins à l'énergie stupéfiante dont jouissent ces agens sur le système nerveux, qu'à l'absorption réelle qui s'en fait, qu'il faut réellement attribuer l'influence délétère qu'ils exercent sur l'économie."

Dr. Copland says that he has found medicated inhalations "diminish the quantity of sputum by changing the action of the vessels secreting it, without exciting cough, increasing the tightness of the chest, or otherwise disordering respiration;" and that he has employed "inhalations of turpentine in several cases of bronchitis, and seen marked benefit result from it." Dr. Copland further remarks, "as it has been only in a very few cases of tuberculous consumption I have adopted pneumatic medicines, my experience has necessarily been limited; but I have had sufficient evidence of their value to justify me in warmly recommending them to the notice of the profession." Dr. Copland attributes the want of success which some practitioners have experienced, partly to an improper mode of practising inhalation, and partly to having prescribed it inappropriately.

Dr. Corrigan has published some extraordinary

cures of consumption, bronchitis, and asthma, effected by the exhibition of remedies in the form of vapour. Dr. Corrigan observes that he feels justified in coming to the conclusion that medicated inhalations exert a most powerful influence over diseased action ; and that, as it is only in this form we can administer remedies to act locally upon diseased tissues in the lungs, the exhibition of remedies in this manner merits the closest attention and most diligent inquiry. "Of the powerful influence," says Dr. Corrigan, "which various vapours, and even changes in the air itself, as to heat, moisture, constitution of the atmosphere, &c., exercise as local agents on the lungs and air-passages, there cannot be a doubt. Every day's observation shows it; every one in his own person feels it ; and, allowing most fully for the exaggerated encomiums of some advocates of inhalation, enough remains in the attestations of many of the greatest authorities in the profession to forbid us to abandon this plan of treatment."

Sir James Clark, in his "Treatise on Consumption," states, that he cannot speak very positively as to the merits of inhalation, having had so little experience in this mode of treating pulmonic disease, but that in those instances in which he has seen it adopted, the difficulty of breathing has been relieved, and the progress of the disease apparently suspended.

Dr. Coxe, in a work on "Diseases of the Respiratory Organs," remarks, "I have found medicated inhalations peculiarly applicable in many complaints of the larynx, trachea, bronchi, and lungs; and the value and efficacy really belonging to this remedial measure may, to a certain extent, be estimated from the fact, that in every case in which I have employed it, not only was the disease of many years' duration, but the long-continued trial of the various remedies generally recommended, and upon whose curative powers the most experienced of our profession almost solely depend, had proved entirely ineffectual." Dr. Coxe states, that "the first case in which I used inhalations was upon myself, and it may not be amiss to state, that for years I had given a fair and ample trial to all the remedies which were suggested by many of the most experienced American and French physicians, without being able to effect more than an alleviation of some of the most distressing symptoms attendant upon a chronic disease of the larynx. Even this alleviation could only be finally accomplished by abandoning the practice of my profession, and calling into requisition the advantages of sea-voyages, a long residence in warm climates, in conjunction with such other means as were considered appropriate." Dr. Coxe adds, by regularly pursuing a course of treatment (inhalation), that he succeeded in completely curing himself,

and that he is, at the period of his writing, in the enjoyment of excellent health, and enabled to attend to the duties of an active life.

Dr. Coxe relates several cases of asthma, bronchitis, and consumption, which were cured by inhalations; among the latter is included a physician of extensive experience, now practising at New York. Dr. Coxe concludes by saying, "the fact of the curative powers of medicated inhalations I now consider well established; and those who, labouring under any diseases of the respiratory organs, are generally made to depend upon the uncertain effects of sea-voyages and change of climate, however inconvenient such measures may be, for a probable restoration to health after a long-continued, though most frequently inefficacious, treatment, have certainly a right to require from their medical advisers that the efficacy of medical inhalation should be faithfully and fully tried in their cases."

Dr. Eberle, in his work on "Therapeutics," remarks "the inhalations of aëriform fluids may be employed to great advantage in the treatment of pulmonic disease, for by this method we are enabled to make direct impressions upon the respiratory organs, a circumstance which experience has shown to be of the highest importance in many diseases to which these organs are liable."

Dr. Beddoes, in an able treatise on inhalation of

medicated vapours, thus describes the effect of oxygen in asthma:—"No sooner does it touch the lungs than the livid colour of the countenance disappears, the laborious respiration ceases, and the functions of all the thoracic organs go on easily and pleasantly again." Dr. Beddoes recommends a trial of oxygen in consumption, and expresses his most decided conviction that by inhalation alone will its fatality be diminished. Foureroy, Withering, Muhry, Caillié, and others, have borne their testimony to the value of oxygen, and also nitrous gas. Our own observations on the use of oxygen do not permit us to join in these commendations, but we have occasionally found the vapour of nitrous gas very beneficial in hooping-cough. The gas may be easily obtained by placing a small vessel in a sand-bath, and pouring into it half an ounce of sulphuric acid, and adding, at short intervals, a small quantity of powdered nitrate of potash. By these means the room will be very quickly filled with the nitrous vapour. It is necessary, when using any of the gases, that every aperture through which they might escape be closely stopped.

Dr. Rush, of Philadelphia, in his work on "Diseases of the Chest," observes, in reference to inhalation, that "too much cannot be said in favour of this simple system of conveying remedies. I have frequently seen patients snatched from the jaws of death by it. Whether

all the beneficial effects, that may be justly considered possible to result from the use of the inhaler, either as a preventative or curative agent, will be realised, must be determined by future observation ; but it is to be hoped that the general want of success which attends the present mode of treating pulmonic disease, will induce medical men to give a fair and full trial to a remedial measure, which appears so well calculated to effect a great amount of good."

Dr. J. Bennett, in an able treatise on Consumption, has recorded his opinion that "vapour is the most reasonable and valuable mode of applying remedies in diseases of the respiratory organs."

Baron van Swieten, in his learned annotations on Boërhaave, remarks, in the article "Consumption," "It is certain that steams and vapours drawn in with the air in respiration may be of use, as they every where come in contact with the whole aërial cavity of the lungs ; and thus remedies may be applied, according to the various conditions of the disease."

Maygrier, Dupuytren, Louis, Bayle, Rullier, Delpit, Lisfranc, and Laennec, have contributed, in the "Dictionnaire des Sciences Médicales," and other foreign publications, several valuable and interesting essays upon the beneficial effects of medicated inhalations in pulmonary and other diseases. Laennec, from observing

the good results produced by consumptive patients inhaling a marine atmosphere, established a ward in the Clinical Hospital at Paris, in which an artificial sea-air was kept up by means of fresh sea-weed. Twelve consumptive patients were subjected to this treatment, in all of whom the disease remained stationary; and in some the emaciation and hectic were sensibly lessened. But from the difficulty of procuring a sufficient supply of fresh sea-weed from the coast, these experiments were not fully carried out; and it is as unfortunate as it is extraordinary, that the powers of iodine (a preparation of sea-weed) should have been so unaccountably overlooked by this great pathologist.

Dr. Pearson, late physician to the Lock Hospital, thus alludes to the inhalations of æther: "It abates the hectic fever, checks the night sweats, removes the difficulty of breathing, and greatly improves the smell, colour, and quality of the expectorated matter. Patients who have inhaled it two or three times, find it so grateful to their feelings, that they are disposed to have recourse to it too often, and cannot readily be prevailed upon to lay it aside when it is no longer necessary."

Dr. Eberle says, that "sulphuric æther is a remedy of considerable value in certain affections of the respiratory organs, in dyspnœa depending on a spasmodic condition of the pulmonary system. I have frequently

derived very great benefit from the inhalation of the vapour of æther, in cases of asthma, where all other remedies had failed."

In our own practice, sulphuric æther has proved a most efficient remedy in allaying severe oppression at the chest, and spasmodic difficulty of breathing, more especially combined with about three parts of balsam of tolu, and a few drops of the juice of belladonna. When thus prescribed, we have scarcely witnessed an instance in which asthma, even in its most aggravated form, has not been materially relieved both in the paroxysms and intervals. When the object is to remove viscid phlegm, and prevent its formation, or to overcome spasmodic constriction, æther may be advantageously impregnated with ipecacuanha, or squills, which, by exciting the tracheal or pulmonary exhalent vessels to secretion, produce free and easy expectoration. When ipecacuanha is administered as an emetic (which is desirable in some cases of asthma, characterised by a congested state of the mucous surface of the lungs; by obstruction of the bronchial tubes, from accumulation of phlegm; or torpid state of the liver and biliary apparatus), this remedy does not, by inhalation, cause that prostration of strength and disturbance of the system which follow from taking it by the stomach; at the same time, it exerts a peculiarly beneficial topical effect.

As the functions of the stomach are not interfered with in this mode of administering expectorant medicines, we have the advantage of being enabled to exhibit, simultaneously, such remedies as are calculated to improve that impaired state of the general health which usually accompanies asthma and other chronic coughs.

The inhalation of the gums and balsamic resins, more especially galbanum and ammoniacum, are highly useful, by their stimulating effects on the pulmonary secretion, in softening and ameliorating asthmatic and other tedious chronic coughs. The best way of administering these remedies is to rub them down in water, with the addition of a little powdered gum arabic, or starch, by which the oil and resin, on which their efficacy depends, are readily suspended; they should be employed directly after being mixed, for when kept, the resin is apt to separate.

The solution of balsam copaiba (which acts specifically upon all the mucous surfaces) combined with balsam of tolu, or camphor, is a remedy of great value in chronic, asthmatic, and bronchial complaints, by promoting expectoration and removing difficulty of breathing.

M. Desportes successfully employed inhalations of hydrocyanic acid, in several diseases of the respiratory

apparatus. We have often observed this remedy afford speedy and effectual relief in hooping-cough and nervous asthma, both when administered by deglutition and in the form of vapour; it is also highly useful, by its powerful soothing effects upon the nervous system, in controlling the action of the heart, when accelerated by functional derangement.

On account of the extreme volatility of hydrocyanic acid, we usually prescribe it in about an ounce of water, and direct that, instead of adding the whole quantity at one time, it should be divided into two parts, one of which is to be introduced into the inhaler at the commencement of inhalation, and the remainder a few minutes afterwards. Should the whole quantity be used at once, the fluid might be too potently impregnated at first, and afterwards insufficiently so. When using hydrocyanic acid, or other remedies which very quickly fly off by evaporation, the temperature of the fluid should seldom exceed 110° or 120° Fahr.

Kortum and Hufeland (Hufel. Journ. 1827) have directed the attention of the profession to the possibility of consumptive patients deriving benefit from those sorts of gas which arise from natural mineral waters. Zaegel (Hufel. Journ. 1827, fasc. 5) has narrated cases in which he employed these gases with temporary benefit.

Dr. Bödtcher, of Copenhagen, has published some interesting observations on the efficacy of camphorated vapours in complaints of the air passages; Raspail has also strongly recommended the use of camphor in nervous and spasmodic affections of the air passages, the patient taking it powdered, as snuff, or respiring its vapour—small pieces of camphor being enclosed in a straw, or quill, the ends closed with cotton-wool, the tube then placed in the mouth, and the breath drawn through it. Dr. Harwood speaks highly of the inhalations of ammonia and camphor, employed with a temperature of about 100°, which are frequently very useful in relieving distressing symptoms, and in promoting the cure of some affections of the fauces, the larynx, and trachea, among which the most common are hoarseness and loss of voice; their benefit arising either from acting directly on the part affected, or from communicating their influence along a limited extent of certain nerves of the throat, by a sympathetic action. On other occasions, by suitably diminishing the stimulus of these inhalations their influence may be safely extended to more remote parts of the pulmonary nervous system; and hence in some chronic complaints of the chest, in elderly persons, much benefit has attended the addition of a little ammonia to ammoniacum, or other expectorants, with a view to arouse and

augment nervous power in the lungs, in consequence of its being so far diminished, as to render the removal of phlegm from the air passages very difficult.

Sir A. Crichton, in an "Account of some Experiments made with the Vapour of Boiling Tar, in the Cure of Pulmonary Consumption," after detailing various cases which had come under his treatment, makes the following remarks:—"It must be evident that the tar fumigation, though most completely successful in some of them, did not produce the same good effects in all; but, on the other hand, the very great relief which every patient experienced at first from it, particularly in the diminution of cough, expectoration, and fever, is a fact which ought to encourage us to multiply the trials of this remedy as far as possible. * * * The tar vapour seems to have healed the ulcers, and removed the inflammation of the tubercles, in the greater number of cases, but I do not believe it produces the absorption of the tubercles themselves. * * * At that period when the cough, expectoration, and hectic fever are greatly subdued by the influence of the tar fumigation, it seems to me often injudicious to continue it longer, or at least, in so strong a degree as before. Notwithstanding the great power of this means of cure, I never employed it quite alone, but at the same time prescribed internal remedies, such as the nature and urgency of the

symptoms seemed to require; but these have been the same as every practical physician has recommended in similar cases."

Since the introduction of tar, by Sir A. Crichton, in the year 1817, numerous trials of it have been made by Lazareto, Hufeland, Dr. Morton of Philadelphia, Dr. Neumann of Berlin, and many others, all of whom are sceptical of its value as a *curative* agent in pulmonic diseases, but believe it capable of diminishing the night sweats, the expectoration, and hectic fever.

The mode of using the tar preparation consists in boiling some common tar, and adding to each pound from one to two ounces of the carbonate of potash, to destroy the empyreumatic acid; a small quantity of this is put over a spirit lamp, and by thus disengaging the volatile part of the tar, which consists of an invisible vapour, the air of the apartment soon becomes impregnated.

Inhalations of creosote, a preparation of tar, were extensively tried by Dr. Elliotson a few years ago, but were speedily discontinued as being of little or no value.

We have employed tar, creosote, and that species of tar termed naphtha, or pyro-acetic spirit, in a great number of cases of pulmonary consumption with the utmost caution and perseverance, and in exact accordance

with the directions enforced by their respective advocates as to quantity and quality, but without deriving the beneficial effects which have been attributed to them, and we believe their efficacy is of very limited applicability, and refers only to some few phenomena and effects of the disease.

Dr. Bennet, in his work entitled "Theatrum Tabidorum" (chap. De Halituum et Suffituum), records several cases of pulmonary disease successfully treated by inhalations of various gases and watery vapours, with accounts of the fumigating apparatus, and recipes for the remedies.

Dr. Cottereau, of Paris, has communicated, in the "Journal Hebdomadaire," and the "Arch. Gén. de Médecine," for 1830, several highly important cases of pulmonary consumption, in which perfect recovery ensued from the use of chlorine inhalations. Mr. John Murray, in a most interesting and able work on pulmonary consumption, has also narrated numerous cases of pulmonic disease which had been cured by the same remedy. Dr. Elliotson, in the "Lancet," No. 402, observes, in his admirable lectures, that he has seen many cases of tuberculous consumption and diseases of the air passages in which the more distressing symptoms were quickly relieved by the inhalation of chlorine; but hesitates to give a decided opinion of its curative effects

until he has made further trials. Dr. Elliotson at the same time remarks, that the medical profession have been much to blame for neglecting the inhalation of various substances, and allowing their patients to die under the old "jog-trot" system, well established as unsuccessful; and that the duty they owe to themselves and their patients demands that they should not persist in affording alleviations only, when there was the slightest possibility of accomplishing more good than before by any new means. Dr. Elliotson adds, that "it shows a very narrow mind to set one's face against attempts at improvement; and I, therefore, give credit to all my medical brethren who suggest anything new, and still more to those who make exertion to carry such things into effect."

Chlorine is an alimentary gaseous body, and was discovered by the illustrious Scheele in 1774, who, perhaps, pointed out more new and valuable substances than any chemist in ancient or modern times. Scheele named it diphlogisticated marine acid. This term, however, is incorrect; but if we substitute hydrogen for phlogiston, as many of our modern chemists have done, the views of the discoverer will be perfectly correct and intelligible; for it is now well known that when hydrogen is abstracted from marine (hydrochloric) acid, chlorine is obtained; and, on the contrary, when hydrogen is combined with

chlorine, marine acid is produced. Shortly after the discovery of this gas Sir Humphry Davy instituted an examination of it, and on account of its green colour gave it the name of chlorine (from χλωρος), by which it has been known to the present time. Chlorine was not medicinally employed until the year 1804, when it was noticed that workmen employed in bleaching manufactories, who were constantly breathing it, enjoyed an almost perfect immunity from disease of the respiratory organs, and also from epidemic fevers, and lived to a great age. It was likewise observed by M. Gannal, an eminent French pharmacien, that, in many instances, persons who had suffered under complaints of the larynx and air passages, who had afterwards been occupied in these manufactories, were quickly and permanently restored to health.

In consequence of these interesting and important facts, M. Gannal was induced to construct an apparatus from which consumptive, asthmatic, and other patients suffering under complaints of the organs of respiration, might inhale the chlorine, in a diluted state. This mode of treatment was attended with the most marked success (curing many virulent diseases when other means had failed), and at length attracted the attention of Dr. Cottereau, the distinguished physician of Paris, who introduced the remedy to the notice of the profession in

the year 1824, through the medium of the "Journal Hebdomadaire," and in the "Archiv. Gén. de Médecine."

In these medical journals many cases of tubercular consumption, of the worst and most inveterate form, were proved by this eminent and accomplished physician to have been perfectly cured by chlorine. After adducing many instances of rapid recovery, in cases where the stethoscopic and general observations were indicative of confirmed consumption, Dr. Cottereau remarks, "These examples incontrovertibly deserve to be placed in the first rank of those which have been collected for some years regarding the efficacy of the inhalation of gaseous chlorine in pulmonary consumption. Indeed, the hereditary disposition, the conformation, the nature and succession of the symptoms, all concurred to prove the existence of the disease." In one instance of recovery from extensive pulmonary disease, where the patient died some years afterwards from a totally different complaint (inflammation of the bowels), Dr. Cottereau observes, that upon making a *post mortem* along with Drs. Parmentier and Caignon, the lung which had been diseased was examined, and found to be perfectly healed, and to be composed of a hard, compact, fibrous tissue, of a slate colour, marbled with white and grey, impermeable to air, and not traversed by any subdivision of

bronchi. The rest of the lungs was quite free from disease.

This case afforded the most positive evidence of the cure of the pulmonary disease: a cure, the progress of which was traced from day to day, and of which all the perceptible phenomena were noted with the most scrupulous care, and which can no longer be doubted when we find indications of the lesions traced on dissections. "We thus see," Dr. Cottereau adds, "that consumption has existed, and, after having conducted the patient to the verge of the tomb, has been combated with success."

Chlorine is absorbed and dissolved by water, and when that fluid has been boiled it will take up twice its bulk of the gas at a common temperature and pressure. The aqueous solution has the taste and smell of the gas itself, and is the preparation we employ, taking care that the chlorine is extremely pure, of uniform strength, of one and a half volume of chlorine in solution, and carefully preserved from the action of the sun, which quickly decomposes it.

Like all other remedies, chlorine must be employed with due discretion and judgment. When used under practised hands, it is perfectly free from the slightest risk, unpleasant sensation, or inconvenience, and its beneficial effects are generally very quickly experienced. We usually add to inhalations of active remedies a

sedative, which greatly assists their beneficial operation, by subduing the irritation of the mucous membrane of the air passages, and lessening that general excitement of the system which usually accompanies pulmonary affections.

From very extensive trials of chlorine, we are fully convinced that it deserves to be ranked among the most valuable of our therapeutic agents, and we feel justified, from the results of a long experience, and from a close observation of its medicinal powers, in most confidently asserting that chlorine has not only effected the absorption of tuberculous deposits, but cured the more advanced stages, in which the general symptoms and the stethoscopic sounds of the chest have clearly denoted the existence of pulmonary excavations. This assertion is not mere hypothesis, but, as we shall presently show, is founded on as clear and incontrovertible evidence as any fact in medicine is capable of being demonstrated.

We are well aware that a majority of the profession do not admit the possibility of curing pulmonary consumption, more especially after ulceration has commenced; but dissection has proved the incorrectness of these views. Pathological anatomy has clearly shown that certain remedies, directly applied to these ulcers, cause cicatrisation to follow--that is, a process of contraction, in which they are closed and united, by being

surrounded by a fibrous or semi-cartilaginous membrane, analogous to some of the textures of the human body; or by becoming indurated and converted into concrete deposits. By the formation of this adventitious cartilaginous tissue, which produces no symptoms or alterations in the general health to denote its existence, the cavities become obliterated, and are prevented from making further progress or causing inconvenience.

The profession owe a debt of gratitude to Sir James Murray, of Belfast, for the introduction of inhalations of iodine, as a remedy in tuberculous consumption, and other diseases of the lungs and air passages.

Iodine (from ἰωδης, violet-coloured) was discovered by M. Curtois, of Paris, in 1812; and subsequently its combinations and properties were made known by Gay Lussac, Vauquelin, and Humphry Davy. It exists in the water of the ocean, and is chiefly obtained from kelp, which is the residue of the combustion of sea-weed, in the form of steel-gray crystals of a metallic lustre. It is soft, and has a peculiar odour, somewhat resembling that of chlorine, and an acid taste. Its specific gravity is 4·94. It is extremely volatile, rising in vapour at a temperature of 120° or 130°. The specific gravity of its vapour, compared with that of the air, is 8·7.

Dr. Murray, in his interesting dissertation, published

in the year 1829, on the inhalation of the iodine, observes —"With respect to the inhalation of iodine, if I had not abundant proofs of its value, I would not be the first to make use of it; but I can with safety assert, that it will sometimes heal, if early applied; and it will give rest and repose, and relief, in cases where it is impossible to cure." Almost simultaneously with Dr. Murray's Treatise, appeared an invaluable work written by the late Sir Charles Scudamore, M.D., on the efficacy of iodine and various medicines, administered by inhalation in consumption, and certain morbid states of the trachea and bronchial tubes. That the results of this mode of treatment have been equally successful since the appearance of these works, will be apparent from the subjoined observations, published in the "Lancet" for 1841-42:—"It is now fourteen years since I was led to make trial of iodine, in the form of inhalation, as being a medicine highly capable of stimulating the absorbents of the lungs, which are not few, to remove tubercular matter; of inducing a healing process in a cavity when formed; and of correcting the morbid action of the bronchial mucous membrane. Experience has amply justified my recommendation of this treatment, and I have had the happiness of succeeding in very numerous cases, in which, according to all my former experience, with the old methods of practice I must have failed. It

cannot be the reproach of any treatment that it should fail in the worst cases,—those which are either become incurable from long neglect, or from their originally inveterate nature; but I can assert with truth that, even when the case is too urgent to admit of success, certain relief will be afforded. It has been sometimes called a mere local treatment,—and when it is so, how much deduction would be made from its importance? But even this criticism is not just. The inhalation acts on the whole system, as I have had proof of, by witnessing, even inconveniently, the constitutional effects of iodine; but to this admission, let me add, such disagreement has not happened in so large a proportion of instances as one in a hundred. When I deliberately affirm this as a truth, surely the most timid cannot shrink from the remedy. What medicine is there, of any power, which does not occasionally disagree in particular idiosyncracies of constitution?

"I cannot refrain from remarking, that some are so bigoted to their experience and old methods of practice (consecrated by time, but certainly not recommended by success), that they repel the introduction of what is new, especially when the remedy requires much watchfulness of its action in order to insure its good results. Great perseverance, also, is necessary; nor can this appear remarkable, if we reflect upon the important and diffi-

cult nature of the work to be accomplished,—the removal of tubercular matter from the lungs by means of absorption; the healing of an excavation; the relief and cure of bronchial disease; and, lastly, a change to be effected in the system—in the whole mass of the blood. It is true, that our best and most anxious efforts may frequently be doomed to meet with pain and disappointment, but the satisfaction of the occasional success with which we may be rewarded will be proportionably gratifying; and in those instances where the inveteracy of the disease will not permit success, we should assure ourselves conscientiously that we have done all in our power to obtain it."

Dr. Harwade, in his able treatise "Diseases of the Throat and Chest," remarks,—"Although I am unable to speak from my own observation of the curative effects of iodine in consumption, when employed independently of other methods of treatment, I am happy to be able to state, that its careful use in combination with them, has occasionally been attended with very satisfactory results. Thus, amongst other less decided cases, in instances in which the symptoms and sounds of the chest, as manifested by the use of the stethoscope and by percussion, have appeared to other physicians, with myself, to prove the existence of tubercles of the lungs, the patients have lost all indication of existing disease. At least, I may

observe, that during a long, and, at present, uncertain period, a quiescent state in the diseased structure of the lungs has followed the use of these combined means; and, with the general evidences of restored health, great improvement has also taken place in the sounds of the chest,—a state which I presume may be regarded as that of recovery. And I have additional satisfaction in being able to add, that the same favourable results have succeeded the continued employment of these measures, even when suppuration and other symptoms, as distinctly the result of pulmonary excavations, co-existent with tubercles have been present."

Inhalations of iodine also have been recommended by Drs. Morton, Thompson, Gardner, Burton, Ryan, Baron, Smythe, Davidson, and a host of other well-known practitioners, who have contributed in the medical periodicals, and various published works, numerous cases of consumption, bronchitis, laryngitis, and other diseases of the respiratory organs, in which the curative effects of this remedy have been most unequivocally displayed.

Our own observations of the remedial influence of iodine, fully coincide with the above authorities. A long and successful practice has fully demonstrated that iodine, by acting as a salutary stimulus upon, and augmenting the action of, the absorbing vessels of the

lungs, has the same decided power of removing tuberculous deposits in the lungs, and cicatrising cavities, as it is universally admitted to possess in dispersing and healing scrofulous enlargements and ulcers, situated in other parts of the system.

It was from observing the very decided effects of iodine in scrofulous diseases—for we hold with Sir James Clark, Dr. Carswell, Dr. Graves, Andral, and other modern pathologists, that consumption is closely connected with scrofula—that we were first induced, now many years since, to test its efficacy in tubercular disease, in the ordinary mode of administering remedies; but we soon discovered that it operated too powerfully on the stomach to admit of being employed a sufficient length of time to produce a permanent beneficial effect. This objection we have found completely overcome in the direct application of iodine to the lungs themselves, by inhalation, for by this means the functions of the stomach are not in the least degree interfered with; and thus, while remedies are being adopted to correct local morbid action, such medicines as are calculated to augment the effects desired by promoting the general power, can at the same time be administered with the greatest advantage; and also a supporting diet, in more adequate proportion to the requirements of the system than could otherwise be received by the stomach.

The application of a liniment composed of iodine, compound soap liniment, and the acetic solution of cantharides, is a valuable auxiliary when a quick action is desirable. The beneficial effects of this remedy may be partly attributed to its acting as a rubefacient, which, by exciting the sensibility, or supply of nervous power, and the afflux of blood to the surface, consequently lessens both in contiguous regions; and partly to the iodine being absorbed, and so operating in concert with the inhalations as a direct stimulus on the mucous surfaces of the air passages and lungs. The liniment may be applied to the throat, or those localities of the chest where disease is indicated; and when it is advisable that the surface of the skin should be vesicated, this object may be accomplished by increasing the quantity of the solution of cantharides, which produces a blister much more speedily and effectually than the common blistering plaister. But conceiving, as we do, that consumption essentially arises from general constitutional weakness and nervous susceptibility, we rarely employ vesications, unless it be in acute cases, where the symptoms are of an unusually severe and urgent character; for we are well convinced that, although such discharges may temporarily relieve the patient, they most frequently conduce to depress the vital power, and thereby favour tubercular development.

Dry cupping, which is unattended by any weakening discharge, is a remedy of great value in the treatment of consumption, asthma, and other pectoral diseases. The operation is performed with a cupping-glass, the air within the cavity of which is exhausted by a syringe, or rarefied by the flame of a small spirit-lamp; when the mouth of the glass is placed on the surface of the skin, the rarefied air in it becomes condensed as it cools, and the glass is forced down on the skin, drawing in a quantity of the integuments; and a considerable suction of blood, from the internal parts over which it is applied, then takes place; and thus the blood may be determined to the extremities or other regions, without diminishing the mass of the fluid. The glasses are allowed to remain on the surface for about a minute, and are re-applied three or four times, as occasion requires. The operation, if properly managed, is unaccompanied with risk or pain; and the difficulty of breathing, thoracic pains, and other urgent local symptoms, are much more quickly and more permanently relieved, than they are by bleedings or vesications.

We may here remark, that we believe the foundation of consumption is oftentimes laid by the too great *abstraction of blood.* It is no uncommon thing to meet with young people who have been bled, purged, and salivated, for some imaginary inflammatory affection, to

the utter destruction of the general powers of the system, and who, after a life of prolonged misery and suffering, have eventually sunk under tuberculous disease. Even in inflammatory cases, it is, in our opinion, a great mistake to suppose that it is necessary to abstract such large quantities of blood, or to bleed to such an extent as to occasion syncope, in order to check disease. Every day's experience has shown us the evil results of this "bold" line of practice. With respect to the employment of venesection in phthisical cases, we agree with Laennec, who observes, "Bleeding can neither prevent the formation of tubercles, nor cure them when formed. It ought never to be employed in the treatment of consumption, except to remove inflammation, or active determinations of blood, with which disease may be complicated. Beyond this, its operation can only tend to a useless loss of strength." Our great object should be, while endeavouring to correct the local morbid action, not to reduce the strength by these or other excessive drains upon the system, but to augment the constitutional power, and overcome nervous irritability by the judicious administration of tonics, and the allowance of generous diet, with a moderate quantity of good beer or wine. It is only by such treatment, aided by quietude, proper clothing, and pure air, that the general health is to be improved,

the absorption of tubercles promoted, and the tendency to fresh depositions counteracted—*hic opus, hic labor.*

But it is necessary to add, that the beneficial effects of tonics depend upon their mode of administration, and they ought not to be given as long as the pulse is strongly agitated, and, at the same time, strained and hard; the cough very frequent, short, and dry; and the respiration uncommonly accelerated and short; as long, indeed, as there exists an inflammatory state of the lungs; the alimentary canal should also be free from irritation and irregular or disordered secretions. If these points were not attended to, their employment would tend rather to decrease than augment the general power. The selection of tonics should be regulated by the character of the debility and the condition of the patient; but of this important class of remedies we have generally found the preparations of steel and bark produce the most good in persons of feeble power, and of a scrofulous or consumptive habit. The use of stimulants requires the same caution as that of tonics, and must be greatly guided by the previous habits of patients; they are especially necessary to those persons who have been habitually accustomed to their use. We have frequently observed irreparable mischief occasioned by their being suddenly and incautiously withdrawn, and have found many chronic and pulmonary diseases

yield much more readily when they were carefully given.

While commenting upon the administration of tonics, we may notice the use of the Oleum Morrhuæ (cod-liver oil), which has been of late so extensively employed in consumptive, neuralgic, and rheumatic diseases. This remedy, although but recently known in this country, has, for a very lengthened period, been used on the coast of Faroe, Shetland, and some parts of Norway. The inhabitants of these parts do not, however, restrict themselves to the use of the cod-liver oil, but put equal faith in the efficacy of the oil of skate, and also of the torsk, or the *godus brosma*. The fresh livers and oil of all these fishes are considered an article of great delicacy, when cooked in such a way as to prevent as much as possible the separation of the oil from the liver. Dr. Copland says that "they often served me as articles of diet very many years ago, and I now would as soon partake of them as of turtle or venison." Of the cod-liver oil, as an alterative and a restorative agent, we are enabled to bear the most ample testimony; indeed, we believe it to be the most valuable medicament of its kind ever adopted in the practice of medicine.

In almost all cases which are characterised by great loss of strength and flesh, the oil has been observed to bring about an extraordinary increase of power and weight—occasionally as much as 38 pounds in 12 weeks.

This substance, as kept by some of the inferior chemists, is a most nauseous medicine, but the better preparation is of a beautiful transparent straw colour, and free from offensive smell or taste, and patients are enabled to take it (especially when mixed with an aromatic bitter) without inconvenience or repugnance. When there is a pale or anœmic condition of the patient, and deficiency of the red globules, various preparations of iron may be advantageously added to the oil.

We have uniformly dwelt with much earnestness and emphasis upon the absolute necessity of supporting and nourishing the consumptive patient by every possible means, and we cannot but rejoice that so invaluable a strengthening agent as cod-liver oil should have been discovered, the internal administration of which must necessarily so much aid our treatment by medicated inhalations.

We usually add to inhalations a sedative, which materially assists their action, by subduing the irritation of the mucous membrane of the air passages, and at the same time conduces to lessen that general excitement of the system, which frequently accompanies pulmonic disease. Of this class of remedies the following are the most to be depended on :—

Conium.	Lactuca.
Hyosciamus.	Belladonna.
Papaver.	Digitalis.
Acetate of Morphine.	Colchicum.

Conium exerts a peculiar soothing influence on the mucous surfaces, and is particularly applicable in bronchitis, laryngitis, and the incipient stages of consumption. It is compatible with all other remedies used in inhalation.

Hyosciamus is occasionally of great service in asthma, bronchitis, and nervous coughs; but it is apt to induce nausea, and, when combined with iodine or chlorine, it does not produce the same good effects as are derived from many other anodynes.

The acetate of morphine, Battley's sedative solution, and the decoction of papaver, with the addition of a little distilled vinegar, are very useful, by diminishing the sensibility or irritability of the bronchial passages, in allaying cough and nervous restlessness. Inhalations of preparations of opium do not produce that costiveness or cerebral congestion, which frequently ensue when they are administered by the stomach. The juice of the lactuca, by the soothing effects it exerts on the irritated or inflamed vessels of the air-passages, is often highly beneficial in bronchial irritation.

Belladonna is a remedy of the highest importance in inhalation practice. In the more advanced stage of consumption, it has appeared to exert the same specific influence on tuberculous cavities, as it is well known to produce, by its external application, on scrofulous and

other indolent ulcers. Belladonna is also most beneficial in hooping cough, and almost all nervous convulsive coughs. Digitalis and colchicum are especially valuable when the heart and its large vessels are affected.

It will be seen that we employ the *juices* of vegetable remedies—which we strongly recommend to our professional brethren, as far preferable to the common tinctures of the "Pharmacopœia," from the irregularity of action and strength of which, all the hopes of the patients, and all the skill of the practitioner, are frequently defeated.

THE RATIONALE

AND

THE METHOD OF INHALING.

The *rationale* of inhalation is exceedingly simple—indeed, nothing can be more simple; and it will be at once evident to any person who will give the matter one minute's consideration, that this plan of treatment is based upon strictly scientific and correct principles,—for it requires no professional learning to perceive that, from the relative position of the stomach and lungs, remedies must necessarily be more effective in diseases of the lungs, when introduced into the whole aërial cavity and to the absorbing surfaces of those organs, than when exhibited through the stomach, where they must undergo great and unknown changes, from the process of digestion, &c., and can only reach the seat of disease by means of the circulation.

In consequence of the importance now attached to pneumatic remedies, many ingenious apparatuses have been proposed to convey them to the respiratory organs; but the well-founded objection which has been generally entertained to their employment, consists in the exertion experienced by enfeebled patients, in inhaling through a very small tube by the continued effort of suction. The instrument which we employ does not necessitate the slightest exertion or fatigue, and may be used by the most enfeebled patients, no more effort being required than in ordinary breathing. While using the inhaler, it may be placed upon the table or the couch, and raised to the required height on a book, or in any other way that may be convenient.

The temperature of the fluid with which the remedies are mixed should be regulated (according to the nature and stage of the disease) with care and judgment, and should vary from 80° to 140° Fahr. When the patient is occupied out of doors, or in any way exposed to the vicissitudes of the weather, the heat of the fluid should not exceed, in any instance, 120°, the vapour of which when inhaled will not be above the *natural* heat of the surfaces to which it is applied.

It has been ascertained that atmospheric air at 57 degrees of temperature, when combined, in its passage through the inhaler, with the vapour arising from

Water, at	100	degrees,	afforded an inhalation of	79	degrees.
do.	110	„	do.	84	„
do.	120	„	do.	88	„
do.	130	„	do.	93	„
do.	140	„	do.	99	„
do.	150	„	do.	104	„

In acute cases, when the symptoms are urgent, it may be necessary that inhalations should be used every four or five hours; but in ordinary cases we usually recommend them to be employed once or twice a day.

It is necessary to explain to patients commencing the treatment the proper times for inhaling, for otherwise they are often tempted by the soothing and delightful sensations produced upon the irritated or painful chest (which, indeed, cannot be imagined by those who have not felt them), to have recourse to it too often; sometimes, indeed, they cannot easily be persuaded to lay it aside when no longer necessary.

The vapour of iodine, chlorine, and other remedies, may also be disseminated through the patient's apartment, for the purpose of inhalation, by means of the Diffuser, the principle of which was first suggested by Dr. Corrigan: it is extremely simple in construction, and of easy application.

The air of an apartment is so perfectly impregnated

by this contrivance, that the window curtains become bleached by the action of chlorine, and tinged blue by iodine, if these be the agents employed: hence great caution is requisite in removing the furniture before pursuing this plan of treatment. The absorption of particles diffused in the air—their admixture with the blood—and their distribution to all tissues and structures—have been clearly demonstrated by frequent experiments of MM. Magendie, Tiedmann, and Liebig, who have detected the odour of camphor, musk, and other remedies, in the blood of animals which had been confined in an atmosphere impregnated with these substances. A certain test is afforded of the iodine vapour producing general effects on the system, by adding to the urine of patients who have thus inhaled it, a few drops of nitrous acid, with a solution of starch, by which a deep blue precipitate is produced, varying in appearance according to the quantity of iodine which has been employed; we have detected this precipitate after ten minutes' inhalation, which shows how quickly iodine is absorbed into the system. There can be no doubt that the Diffuser will be found an important addition to our means for carrying on inhalation, more especially in the treatment of pulmonary diseases in very young children, for whom, as a matter of course, the ordinary inhaler is not adapted. But, while

granting to the invention all the merit it deserves, we must express our opinion, that the improved inhaler (before deseribed) is, generally speaking, much to be preferred; for the quantity and effeet of the medicated vapour, when it is thus direetly conveyed to the lungs, can be much better regulated and caleulated on, than when the remedy is widely dispersed through the atmosphere.

CASES

ILLUSTRATIVE OF THE EFFICACY

OF

MEDICATED INHALATIONS, &c.

In the practice of medicine, a few incontrovertible facts, which are the only basis of accurate knowledge, are worth a thousand theories or conjectures.

The following cases, which are a faithful record of symptoms registered at the moment of observation, and of the treatment instituted for their relief—but condensed to avoid the tedium of minute and daily details—have been extracted from the Author's note book, and will further exhibit the beneficial effects of medicated inhalations in diseases of the lungs, air passages, and throat:—

Case I. Consumption.—A young lady about twenty years of age, of delicate aspect, and lymphatic temperament, consulted me July 4th, 1838, in consequence of a very severe cough, attended with acute pains in the

chest, from which she had suffered for several weeks. She had been treated by the usual remedies, but had obtained no further benefit than a mitigation of the symptoms. She was pallid, with occasional hectic flushes ; much depressed in spirits ; the circulation quick, but very feeble ; the cough incessant, and attended with purulent expectoration ; appetite indifferent ; palpitations ; catamenia irregular ; bowels costive ; nocturnal perspirations ; inspirations 32 in a minute ; animal heat, 99° ; very perceptible dulness on percussion at the right infra-clavicular and mammary regions, and pectoriloquism at the apex of the lungs ; the left side was very sonorous, with puerile inspiration, and some fine mucous and sibilant râles : the action of the heart, when quickened, was accompanied by a slight *bruit de soufflet*, which disappeared so soon as that organ became quiet. I directed that the patient should be dry-cupped over the chest ; and prescribed an inhalation of iodine and conium, at a temperature of 120°, and the iodine liniment, with a saline aperient mixture and a soothing pill, composed of acetate of morphine, at bed-time : subsequently, in consequence of her exsanguined appearance, small doses of steel and quinine, with a good, nutritious, but plain diet. Treatment on this principle was continued for ten weeks, during which period an occasional change was made in the tonic remedy, and in

the quantity and frequency of the inhalations. The dry-cupping—which was had recourse to three times—materially relieved the thoracic pains; the cough and local morbid action were overcome by the influence of the inhalations; and the general health was materially improved by a perseverance in the tonics. The progress was steady and satisfactory; uterine action became perfectly re-established; and, in eighty days from the commencement of my treatment, all the symptoms were removed, and her usual state of health restored.

According to my experience and observation, no reasonable doubt can be entertained that tubercles in the lungs are scrofulous deposits: the same view is entertained by many high authorities in this country and abroad. I have examined a great number of scrofulous patients, and have rarely met with an instance in which the lungs were not more or less affected with tubercles. Professors Louis, Graves, and others, have noticed that if we trace the phenomena of external scrofulous abscesses, we shall be struck with the close analogy they bear in their manner of appearance, their progress, and terminations, to the ulcerations of the lungs in consumption; the same slowness, the same gradual solidification and gradual softening; the similarity of puriform fluid secreted in each; the analogous occurrences of burrowing ulcers and fistulous

openings; the close approximation in the form of their parietes; and the difficulty of healing remarked in both; make the resemblance between them extremely striking. Compare scrofulous inflammation of the hip or knee-joint with consumptive suppuration of the lungs; have we not the same kind of hectic fever, the same flushings and sweats, the same state of the urine, the same diarrhœa, the same state of the appetite, and the same emaciation?

With the conviction of the frequent identity of consumption with scrofula, I was led to apply to tuberculous lungs, by means of inhalation, that remedy, iodine, which had been found to be most efficacious for the cure of scrofulous sores on the surface of the body. The results of this treatment have justified my most sanguine expectations; and I am convinced, from the experience of the cases of many hundreds of patients who have been thus restored, who had been previously considered as incurable, that iodine has the decided power of curing incipient consumption, by exciting an increased action of the pulmonary vessels, and so augmenting the energies of the absorbents as to bring about solution and absorption of tuberculous deposits. Such an influence this remedy is well known to exercise in dispersing external enlarged scrofulous glands; and, as Dr. Cummin truly observes, all that we know of the action of the absorbents in the

lungs leads us to believe that they are capable of removing tubercle; and that such an operation, to a certain extent, does really take place, is proved by the changes which that substance undergoes in its progress to the cretaceous transformation. If tuberculous masses of long standing are thus changed, what reason have we to doubt that the soft curdy matter of which they are at first composed, is often absorbed and carried back into the circulation, to be converted into some less noxious constituent, or altogether expelled from the system. I have also frequently known iodine to cicatrize excavations in the lungs, coexisting with tubercles, by which process of contraction the cavities become healed, and are prevented from making further progress or causing inconvenience. Many physicians of high standing in the profession have borne the most ample testimony as to the correctness of these important and consoling statements, and consider, with myself, that iodine, if not a specific in consumption, appears in many cases, as very nearly approaching to it.

When iodine is administered by the stomach, it not only reaches the lungs in an uncertain and modified form, but very frequently produces great derangement in the system, causing pain in the eyes, profuse serous discharge from the nostrils, severe frontal headache, and œdematous swelling of the eyelids. All this mischief is chiefly induced by the irritating effects of the iodine

upon the digestive organs ; and we think it should ever be borne in mind by the judicious practitioner, that in pulmonary and other exhausting diseases, the medicines (more especially in chronic cases, when they are long continued), as well as the food, should be easily digestible; and when they are not, they should never be employed without the greatest caution and circumspection. These objections are obviated by the *inhalation* of iodine, by which method the absorbing surfaces of the lungs are directly acted upon, and the stomach is not in the slightest degree affected, and is left open for the administration of such nourishing food, tonics, and other means, as are calculated to subdue that general constitutional derangement and debility which always more or less attend this disease.

But, however extensive the application of iodine may be, it must be remembered that it requires, as every other remedy does, to be materially modified by the peculiarities of individuals, and the circumstances which may take place during its employment. A heedless perseverance in any medicament, if not judiciously administered, will often create more mischief, and produce more suffering, than the disease which has been attempted to be relieved ; hence the absurdity of supposing that any nostrum whatsoever can prove a cure for every species of a particular disease, much less for the variety

of forms of disease in general. The symptoms of pulmonary and other diseases are too numerous, and too dissimilar in their nature, to admit of the use of any universal remedy, for every particular case is so much modified by age, sex, habit of life, climate, food, and a variety of other causes, that its treatment cannot be made a matter of prescription; every case becomes in reality a study in itself, and the skill of the practitioner can only be fully displayed by adapting his treatment to the varying condition of his patient.

Case II.—Consumption.—A gentleman requested me to see one of his sons on May 2nd, 1836. The boy was about thirteen years of age, of a fair complexion, and scrofulous diathesis. He had suffered for some months from constant pain, and a feeling of restraint over the chest; palpitations; distressing cough, attended with copious expectoration of puriform matter, occasionally tinged with blood; disrelish for food; great debility; night perspirations; breathing 30; animal heat 97° (ascertained by the bulb of a properly constructed thermometer being placed under the tongue); the pulse usually beyond 100. These symptoms, which had been treated in a manner calculated to exhaust his general power—as by low diet, leeches, blisters, expectorants, &c.—appearing to become rather aggravated than re-

lieved, my advice was sought. The complaint, it appeared, originated with spitting of blood, which occurred to the amount of about three ounces, and continued in smaller quantities for a few days, and then ceased altogether. On examining the chest by the stethoscope, and by percussion, I detected well-marked pectoriloquism, and dulness at the right collar-bone, with a gurgling noise and a cavernous ring on coughing, extending downwards to the fourth rib; at the left side the respiration was imperfect, and percussion elicited a dull sound over the clavicular and sub-clavicular region, and posteriorly on the opposite part of the same side. The heart gave no abnormal indications, though its motions were accelerated and irregular. The former medical attendant pronounced the child to have tubercles, and that the ulcerative process had commenced, and considered his recovery as hopeless. I coincided with this gentleman in his diagnosis, but not in his prognosis, or in his treatment. I directed that the patient should inhale chlorine and belladonna at a temperature of 120°, and take a mixture composed of sulphate of quinine and steel, with light and nutritious diet. This plan was attentively followed up, and with such success, that, in twelve days, the respiration was more natural, the cough much less troublesome, the appearance of the sputum greatly

improved, and the night perspirations lessened. In another twelve days the results were still more satisfactory: the circulation became fuller and firmer, the surface more florid, the spirits improved; and the severity of the cough and local symptoms were so much relieved by the influence of the inhalations that my patient was enabled to sit up several hours in an arm-chair, without experiencing fatigue or inconvenience; in fourteen weeks from the date of my first seeing him, his health was quite re-established, and he has had no relapse up to the present time.

Remarks.—Very many medical men in various parts of France, Germany, and America, have also deposed, in the most positive manner, to the efficacy of chlorine in diseases affecting the lungs, larynx, trachea, and bronchi; and I have no hesitation in adding my own full and confident testimony, that chlorine, used in the method in which I employ it, is capable of removing tuberculous deposits in the incipient stages of consumption, and of curing the latter or more advanced stages so long as it is evident that a large portion of the lungs is in a sound state, and that the condensation within the excavations and the tubercles has not become completely impervious. In corroboration of these views, I have in my possession many pathological preparations, which beautifully show the various stages of different

diseases of the respiratory organs, and the curative processes induced in them by the local application of this remedy; and are aptly illustrative of those great and important facts which I am desirous of urging upon the attention of my medical brethren and the suffering community.

Case III.—Consumption.—A gentleman, aged thirty-five, a solicitor, of naturally feeble power and intemperate habits, consulted me, Sept. 2nd, 1839, and stated that he had had, three years previously, an attack of pulmonary inflammation, with cough and spitting of blood, for which venesection, cupping, and mercurials had been prescribed. Since that time a constant irritating cough, attended with expectoration, had continued, and had, within the last month, so much increased as to confine him to his bedroom. A physician of some note had to this date attended him, and pronounced the case a hopeless one.

When I first saw my patient he was pallid; much distressed, with an anxious look; suffered from a constant violent cough; and expectorated about a pint of purulent matter in the course of the day—presenting all the qualities of phthisical sputa: hectic fever prevailed to an extreme degree, and was attended with great emaciation and profuse night perspirations; pulse, 100; inspirations, 28;

animal heat, 110°; tongue much furred; diarrhœa; had lost a brother from consumption. Pectoriloquism, cavernous respiration, and a gurgling râle in the right subclavicular region and in the axilla, gave conclusive evidence of the existence of ulceration in the superior lobe of the lung of that side; and dulness on percussion at the left side denoted the presence of tubercles in the left lung: the heart beat regularly, and with a natural sound, only with too great frequency. A chalk mixture, with the addition of catechu, was prescribed, and inhalations of chlorine and belladonna at 110° temperature; and subsequently, when the tongue became clean, and the secretions regular, a mixture composed of quinine and infusion of roses, with excess of acid, and a little solution of the acetate of morphine; nutritious and generous diet, with a small quantity of the stimulus he had been accustomed to. He soon experienced the beneficial effects of this mode of treatment; for, in three weeks, the cough and night perspirations had become much diminished, and the expectoration was slight and free; the excessive purgation had ceased; strength improved; and the symptoms generally so much mitigated, that he was enabled to reach his sitting-room. At the end of eight weeks more, the cough was very slight, and of no inconvenience; the sputum very trifling, and consisting of mucus only; there were no longer night sweats, or indications of fever; and

he had gained both flesh and strength, and, by wearing a respirator, could take out-of-door exercise. The patient experienced two or three slight relapses from sudden changes of temperature and derangement of the stomach and bowels; but got perfectly well in the course of fourteen weeks from the commencement of my treatment, during which time the above remedies were steadily persevered in, with some slight modifications.

The gentleman has since paid more attention to his general health, by preserving habits of regularity and temperance; through which he has maintained a proper degree of constitutional power, and has not at the present time the slightest trace of pulmonary disease.

Remarks.—One of the first symptoms, in this case, was hæmoptysis (spitting of blood) which is too often the harbinger of much and, if neglected, irreparable evil; hence the absolute importance that the least token of its presence should be promptly and effectually met. The common plan of bleeding, as was here practised, I believe to be, generally speaking, injudicious and dangerous—not, perhaps, in its immediate, but in its ultimate effects. When we find the pulmonary circulation become embarrassed during convalescence from acute disease, whilst all the other functions have re-acquired their healthy characters, I am convinced that the occurrence of this symptom is not so much to be attributed to the disease

itself, as to the treatment. These repeated bloodlettings not only diminish the mass of blood in circulation, but also alter its constitution; for, as Majendie and other physiologists have observed, aqueous drinks absorbed by the veins, being the sole means wherewith the patient is allowed to replace the blood he has lost, it follows that the fluid loses its proper share of viscidity and coagulability, and acquires, proportionably, a tendency to extravasation. The deteriorated blood which is thus extravasated in the labyrinth-like canals, coagulates, becomes solid, and produces pulmonary disease, similar to that which I have just described.

This case very satisfactorily shows that a cure of consumption may be effected even in the most advanced stages, and that too, under the most unfavourable circumstances, for here the patient's constitution (naturally weak) was much broken down by intemperance.

Laennec has detailed many well-marked cases of pulmonary consumption in patients who had died from other causes, in whom tuberculous excavations were shown, by post mortem examinations, to have existed, and which had been cured by the formation of new membranes; and it is well known to practitioners well acquainted with morbid anatomy, that like instances are occasionally met with in post mortem examinations, in which one lung may have undergone similar changes, and the other lung, when

free from disease, had been found quite equal to the purposes of life. Cruveilheir has mentioned this process, as being capable of suspending the progress of consumption, and there is now in the museum of Dr. Lizars, of Edinburgh, the right lung of a former patient entirely cicatrised, who perfectly recovered from the pulmonary disease, and died many years afterwards, from typhus fever. M. Baudet states, that in one hundred and ninety-seven autopsies, promiscuously taken, he found ten instances in which cicatrisation existed in the lungs, without the presence of tubercles ; and, in eight cases, one or more cavities were discovered in different stages of cicatrisation. M. Andral, Sir J. Clark, Dr. Carswell, and numerous other modern pathologists have published examples of the healing of tuberculous ulcers ; and in those advanced stages of the disease where a cure is impossible, such a suspension of the symptoms may frequently be effected, which may be deemed almost tantamount to a cure ; for the individual may enjoy such a state of health, as to be enabled to fulfil all the duties of life for an indefinite period.

Case IV.—Chronic Bronchitis.—A married lady, aged forty, of a fair complexion, with narrow chest, and evincing naturally rather feeble power, came from Colchester to consult me, January 9th, 1840. It appeared

that the lady had suffered from a chronic cough for the last nine months, and had been under medical treatment the greater portion of that time; but as no perceptible diminution took place in the symptoms, she was induced, by the recommendation of a former patient, to put herself under my care. The patient being unable to give me a satisfactory account of her early symptoms, I wrote to her former medical attendant, but his statement was of little or no value, being a mere history of the treatment of the disease, which he pronounced to be chronic phthisis; he also added that he had a few years before attended one of her children who had died from the same complaint.

The patient was much reduced in flesh and strength, and complained of great pain in fetching a deep breath, and a constant irritating cough, attended with difficult expectoration of ropy and glutinous sputum; pulse 90; nights restless; digestive organs much impaired. Under each clavicle there were sibilant and crepitating râles, especially perceptible after making a deep inspiration, a general feebleness of the vesicular murmur, and a degree of dulness under the left clavicle; but there was no decided evidence of tuberculous disease. I prescribed inhalations of iodine and conium at 100°, with a tonic stomachic mixture, and the chest to be dry-cupped. Under this treatment the cough was very quickly relieved,

and the expectoration diminished; the respiration became natural, and the pulse fuller and shower; and in three weeks all morbid signs had disappeared from the lungs, and the patient returned to the country convalescent. She remained quite free from bronchial irritation for two years, when she died from scarlet fever. A post-mortem examination was permitted, and no traces of pulmonary disease were discovered.

Case V.—Chronic Laryngitis.—A female servant, of feeble power, and chlorotic appearance, consulted me in March, 1842. The symptoms were as follows:—constant harassing dry cough; palpitation; great debility; total loss of voice; great tenderness by pressure, over the lower part of the larynx; the catamenia had not appeared for ten months, and, previous to that period, very sparingly; had been subject to the cough for the last fifteen months; and had been under the treatment of three medical men, at different times, without experiencing any permanent benefit. Physical examination did not reveal disease of the lungs or heart. I prescribed leeches to the throat, and, subsequently, preparations of steel, with inhalations of belladonna, and a liniment—composed of the acetum of cantharides, oil of terebinthinum, oil of cajeput, compound soap liniment, and oil of lemons,—to be rubbed in, just

above the thyroid cartilage, twice a day. This plan of treatment was unremittingly persevered in for seven weeks, when the cough was entirely cured, and the catemenia fully re-established: her general appearance and state of health were also materially improved. At this period she proceeded with some friends to South Australia; and I have since ascertained that she remained without cough during the voyage, but that, a short time after her arrival at Adelaide, some of the old symptoms returned; but the attack was of very short continuance, having been overcome by the inhalations—prescriptions for which I had provided her with, in case of any relapse. I have seen many cases of this kind of even longer duration, which have been successfully treated by a steady perseverance in the above mode of treatment.

Case VI.—Chronic Bronchitis.—A young gentleman, aged twenty-three, of strumous habit, consulted me, December 1st, 1839; with constant cough, attended with expectoration of thick yellowish matter; impeded respiration; soreness of the fauces and trachea; great emaciation; pulse 87; rheumatic pains in various parts, more particularly the right knee, which was painful upon pressure, and swollen; had been suffering from these symptoms for the last four months, and had been

told by his medical attendant—from whose treatment he had obtained no relief—that he was in a consumption. The physical signs were—mucous and sibilant rattles over various parts of the chest, with occasional crepitation; but there were no decided indications of structural disease of the lungs. The treatment consisted of inhalations of iodine and conium, with a mixture of the cold infusion of sarsaparilla, with small doses of the iodide of potassium. By adopting these means, the different symptoms rapidly gave way; and, in six weeks, this patient had not only recovered from the bronchial affection, but also from those chronic rheumatic pains, which had for a lengthened period constantly tormented him.

Case VII.—Consumption.—A young man, a groom, of delicate constitution, who was placed under my care, March 27th, 1835, related that about a year ago, he caught cold, by sitting in a crowded theatre with damp clothes on, which was followed by severe cough, with pains at the chest and head. The medical gentleman who attended the case, bled him to faintness; which treatment it seemed rather aggravated than relieved the symptoms. The lancet was, however, again employed, and the like results ensued; subsequently, he was twice blistered. After this treatment he slowly rallied, but

had ever since been constantly troubled with a hacking cough, and he had gradually lost flesh. At the time of his application to me he was so debilitated as to be incapable of undergoing the least bodily exertion: complained of severe palpitations; difficulty of breathing; profuse night perspirations; constant cough, accompanied with an expectoration, in which were discovered, by the aid of the microscope, distinct portions of globular, ragged, tuberculous matter. The countenance was anxious; the cheeks attenuated, and patched with a hectic flush; pulse varying from 100° to 110°; total loss of appetite; animal heat 100°; respiration 30. Auscultation and percussion gave a cavernous rhoncus between the fourth rib and the right clavicle, with a metallic ringing, and pectoriloquy; at the left side there was dulness at the apex of the superior lobe; and there was an unusually deep depression under both clavicles, formed by the sinking in of the walls of the chest. The treatment consisted of inhalations, composed of chlorine and belladonna, with occasional dry-cupping, sustaining diet, and febrifuges; and subsequently, when the tongue became clean, and the feverish symptoms were abated, steel and quinine tonics. By these means the more urgent symptoms were speedily relieved: and, in three months from the commencement of my treatment, natural sounds were the result of stethoscopic examination, and

he was suffieiently recovered to undertake a journey to Margate, where he remained for six weeks, and had the advantage of baths at the Sea-Bathing Infirmary. He returned quite well, and re-entered the service of his former master.

Remarks.—This ease, while illustrating the remedial virtues of chlorine, also shows the pernicious effeets of the abominable system of over depletion. The symptoms whieh at first characterized this young man's illness evidently denoted it to be influenza, a complaint well known to be unaceompanied by inflammatory action; and henee the use of the laneet was both unealled for and highly reprehensible. To bleed in influenza, more espeeially in old and debilitated subjeets, is, I firmly believe, in most instances, to kill. The blood is, as Harvey deseribes it, the "primum vivens," and "ultimum moriens,"—the life of every part depending upon it. All the phenomena of life tend to prove this. Inerease the eirculation to the aeme compatible with health, and you inerease animal power; diminish it, and you diminish animal power; abstraet the whole of the blood, and you destroy life.

Reeolleeting, then, the loss of blood and sensibility produeed by the withdrawal of this life-dispensing stream, the praetitioner eannot be too eautious in prostrating the system by this dangerous plan of treatment; for by it,

as I have too often witnessed, the most painful nervous irritability is produced, which counteracts the very end in view (more especially in consumption), by relaxing that which was already, most probably, too relaxed, and rendering the constitution more delicate, and more incapable of contending with the trying vicissitudes of this changeable climate, and frequently depriving remedial measures of all their efficacy. Local bleeding, by means of small relays of leeches, may be sometimes employed with great advantage in chronic inflammation; but in cases of extreme debility, from long continued disease, I have seen even that small loss of blood attended with the most disastrous circumstances.

Much of the success which has attended my treatment of consumptive cases is to be attributed to having avoided depletion, debilitating medicines, or any measures calculated to impair the vital principle or power.

Case VIII.—Hooping Cough.—A lady requested me to see her male child, aged three years, of delicate appearance, and scrofulous habit, labouring under an unusually severe attack of hooping cough. It appeared that the lady had lost two children from the same disease, and therefore felt unwilling that this child (whom she considered the most delicate of the family, and least capable of bearing up against the complaint)

should undergo the treatment which had been so unsuccessfully adopted in the previous cases. He was pallid; the extremities cold; pulse scarcely perceptible; respiration extremely hurried; general languor and debility; the fits of coughing violent, and occurring, upon an average, every ten minutes, and sometimes followed, after great fighting for breath, by convulsions; expectoration scanty; diarrhœa; sleep restless, being constantly disturbed when he was beginning to slumber by the distressing fits of coughing. I directed that the little sufferer should inhale the vapour of nitrous gas for a quarter of an hour, three times in the day, and take small doses of an antacid mixture. Upon the third day of the employment of these remedies, the paroxysms of coughing were greatly relieved, the breathing became more natural, the rest sound, and the state of the secretions improved. This plan of treatment was steadily pursued, with some slight alterations in the times and quantities of the inhalations, for nine days, when the remedies were discontinued, not a single fit of coughing having occurred for two days previously. The state of the general health was afterwards materially improved by preparations of steel and zinc; and I had the gratification to hear, after a short continuance of these tonics, that he had never looked so well.

Remarks.—The nitrous gas employed in this case is a

safe and most manageable remedy, when administered in practised hands. It is easily obtained by pouring sulphuric acid into a small vessel placed in a sand bath, and gradually adding at intervals small quantities of pulverized nitrate of potash; by which method the apartment of the patient is soon filled with the nitrous vapour. When properly managed it quickly relieves the paroxysms of coughing, soothes the irritation of the chest, and produces quiet, refreshing sleep. In asthma and bronchitis it is invaluable in overcoming the difficulty of breathing which accompanies these distressing complaints.

Case IX. — Chlorosis (the Green Sickness), simulating Disease of the Heart, and Consumption.—A young lady (a governess), aged twenty-seven, of lymphatic temperament, and exsanguined appearance, sought my advice, August 1st, 1840, complaining of constant harassing dry cough; oppression at the chest, and irregular breathing; distressing palpitations after ascending stairs, or using any exertion; catemenia suppressed for the last thirteen months; leucorrhœa; pulse 90; bowels deranged, with sickness at stomach, and occasional vomiting.

My patient had been under medical treatment for the last eight months, and was considered to be labouring

under aneurism of the heart and tuberculous disease; under which supposition she had been bled, cupped, and blistered, and was so emaciated and debilitated, that, to use her own expression, she was "worn down to a skeleton." My patient declared, with much earnestness of manner, that she well knew her case to be a hopeless one, but trusted some palliative might be prescribed to ameliorate the more painful symptoms.

The sounds elicited by auscultation and percussion clearly demonstrated that the general disturbance of the system, before described, was not dependent on the existence of pulmonary disease, and the only unnatural sound which I could discover in the heart was a transient *bruit de soufflet,* joined with a slight musical whizzing in the crural and subclavian arteries, neither of which was sufficient to denote disease of that organ. This fact I did not hesitate to communicate to her, which I had hoped would have tended to dissipate the melancholy under which she was continually suffering; but it was received with misgivings, after the decided manner in which her former medical attendant had expressed himself as to the nature and probable result of the complaint, and whom she represented to be a gentleman of great practical experience, and well acquainted with her constitution.

The history and symptoms of this case led me to

believe that this derangement of the constitution originated in the uterus not properly performing its functions, and that the palpitation and cough were dependent upon a morbid irritation in that organ. Preparations of steel were prescribed, with an inhalation of hydrocyanic acid, generous diet, the use of the shower-bath, and gentle exercise. This plan was pursued with great advantage, until September 4th, when the catamenia were restored. This change accomplished, a marked improvement rapidly took place in her appearance and general health, and in fifty days from the commencement of my treatment she was perfectly cured, and has not, up to the date of these pages going through the press, had any return of illness. The patient frequently expressed during the above treatment, that she derived great benefit from the inhalations of hydrocyanic acid in allaying the cough and palpitations. We have frequently found this remedy a valuable auxiliary in such cases.

Case X.—Consumption.—A young man, a publican, aged twenty-seven, of naturally good constitution, but much broken down by intemperance, consulted me, November 2nd, 1836. It appeared that he had suffered for the last nine months from cough, shortness of breath, and pains at the chest; and that, having caught a severe cold by exposure to the night-air, the cough had, within

the last few days, much increased, and caused him suddenly to bring up half-a-pint of blood. Being alarmed at this new symptom, he sought my advice. Although complaining for so long a period, he had not placed himself under medical treatment, but had resorted to almost all the injurious nostrums with which our newspapers abound. He was now much wasted in flesh; very pallid, with occasional hectic flushes; the countenance anxious, with a peculiar wild expression of the eye; pulse 100, animal heat 103°; breathing short and painful; night perspirations; copious expectoration of purulent matter, streaked with blood; the sound, on percussion, very dull on the upper part of the left side; pectoriloquism at the apex of the right lung, with a cavernous sound, demonstrating the existence of an ulcer; and, from the second rib downwards, a crepitating rhoncus was perceptible. I prescribed inhalations of iodine and belladonna; a vesicating liniment to be applied to the chest; and a mixture composed of gallic acid and Battley's sedative solution of opium. Under this treatment, the difficulty of breathing and cough were much relieved, and the spitting of blood quite removed. A combination of steel with quinine was now administered, in conjunction with the inhalations; and, at the end of five weeks from the commencement of the treatment, my patient had so much recovered, that he declared himself

to be quite well, and was unwilling to undergo further treatment; but the stethoscopic signs did not correspond with his views, and I warned him, that although the cure was progressing, it was not established. Shortly after this he removed from the neighbourhood, and I lost sight of him until August, 1838, when I received a message from him, earnestly requesting to see me, at a distant part of the metropolis. I found him reduced to a mere shadow, in great poverty, and in the last stage of pulmonary disease, and evidently sinking fast. It appeared, that, upon his former partial restoration, he had pursued a course of dissipation, which had completely destroyed his already impaired constitution, and he had now been confined to his bed for five weeks. Although I could hold out no possible chance of recovery, I considered it my duty to alleviate as much as possible the severity of the symptoms; and this object (which no degree or severity of disease, except the unequivocal signs of momentary dissolution, can justify the practitioner in relaxing his endeavours to effect) was more fully accomplished by sedative inhalations than by any other palliatives I have ever used myself, or seen employed by other practitioners, in such cases. He died about a week after I saw him; and it was generally observed by his friends, that his sufferings appeared to be most materially lessened by the means adopted.

Remarks.—I have notes of several incurable cases (for there are, as a matter of course, periods of disease in which every effort of the remedial art must be equally unavailing and unsuccessful), in which the powers of inhalation, in mitigating the symptoms, have been most remarkably displayed.

Case XI.—Bronchitis.—A gentleman, the harbour-master at Whitby, in Yorkshire, came up to town for the purpose of consulting me. He was reduced in strength and appearance, and had suffered for a considerable period from cough attended with great spasmodic difficulty of breathing, which previous treatment had failed in correcting. A stethoscopic examination revealed chronic inflammation of the mucous membrane of the bronchi. The patient immediately commenced inhalations of conium, balsam of tolu, sulphuric æther, and stramonium, and was sufficiently recovered in ten days to return home, and he was very shortly afterwards quite cured. About four months subsequent to this I was much gratified by receiving the following note:—"I have the pleasure of introducing to you the bearer, a friend and neighbour of mine, whom I have recommended to consult you. With regard to myself, I have already intimated that I am in good health. I have no cough, nor do I expectorate, and I breathe with the wonted ease

of youth. In short, all bronchial irritation has ceased; which I solely attribute, under the blessing of God, to having followed your inhaling treatment."

Case XII.—Consumption.—A married lady, from Worcestershire, aged thirty-six, of delicate appearance and scrofulous habit of body, placed herself under my care, by the advice of a medical friend, from whom she had derived little or no benefit. She was greatly emaciated, and complained of much pain and tightness at the chest, with a distressing cough, accompanied with expectoration of purulent matter, occasionally tinged with blood; animal heat 100°; respiration 30; pulse 120; hectic flush; night perspirations; and stethoscopic signs of a cavity in the superior lung of the left side. The cough and other symptoms supervened after an attack of influenza. The treatment comprised inhalations of bromine (a preparation of iodine), nitro-muriatic lotions to the chest, with the internal exhibition of febrifuges, followed up by the Oleum Morrhuæ. The lady remained under my treatment for five weeks, and then returned home, both looking and feeling an altered person. She has ever since been quite free from the slightest symptom of pulmonary disease, and her general health has been good.

Case XIII.—Chronic Cough, Simulating Consumption.—A young gentleman, aged twenty, an University student, of pallid and melancholy countenance, and nervous temperament, consulted me for a dry hacking cough, attended with difficulty of breathing on the slightest exertion, derangement of the stomach, and palpitations of the heart; which symptoms had existed, more or less, for two years. He was much emaciated and depressed; his memory and mental faculties were greatly impaired; and, indeed, he was one of the most pitiable objects I ever beheld. It was believed that he was labouring under pulmonary disease, but the stethoscopic signs did not justify that opinion.

The hidden source of all this disturbance of the health I soon discovered to arise from youthful imprudence—from moral not natural causes. The cough, and increased action of the heart, were quickly repressed in a most remarkable manner by sedative inhalations, and his general health was perfectly restored by the abandonment of pernicious habits, and the aid of vegetable and mineral tonics, change of air, and horse exercise.

Remarks.—Cases of this painful nature are very frequently presented to my notice, and I have rarely found the above mode of treatment, if properly carried

out, fail of restoring the wonted energy of both mind and body.

Case XIV.—Chronic Cough.—A lady of distinguished title, residing near Southampton, consulted me respecting her daughter, a young lady about nineteen, who had suffered for many months from a constant irritation in the throat, attended with cough, and occasional difficulty of breathing, As the young lady was of a naturally delicate constitution, her parent feared (and not without good foundation) that the complaint, if not speedily overcome, might degenerate into consumption. Many eminent provincial and metropolitan physicians had been fruitlessly consulted.

In sixteen days all the above symptoms were cured by inhalations of the juices of lactuca, hyosciamus, belladonna, and sulphuric æther, combined with the application of the acet. cantharid. fort. to the throat, as a counter-irritant. My patient has remained quite well.

Case XV.—Ulceration of the Tonsils and Uvula.—A gentleman applied to me respecting a copper-coloured eruption of the skin, and ulceration of the tonsils and uvula, producing a hoarseness in the voice and difficulty in swallowing, which previous treatment had appeared rather to augment than to relieve.

From a minute inquiry into the ease, it appeared to me, that the symptoms proceeded more from injudicious long courses of mereury, than the eomplaint (syphilis) for which they were given. The patient, from being stout, was reduced almost to a skeleton. I preseribed inhalations of iodine, iodide of potassium, and the juiee of eonium, with small internal doses of the iodide of potassium, eombined with nitrie acid and sarsaparilla, and generous diet. Under this treatment he quickly rallied, and by the further assistanee of eountry air quite regained his health.

Remarks.—Inhalations of iodine, bromine, &c., have very often proved of the greatest effieaey in affections of the throat proeeeding from seeondary symptoms, or other eauses.

Case XVI.—Chronic Cough after Influenza.—A gentleman, residing near Tring, who deseribed himself to be of a spare habit and naturally weak constitution, eonsulted me, per letter, respecting a chronic eough (the sequela of influenza), attended with viseid expectoration, soreness of the throat, pains at the ehest, and impeded respiration, which had then existed, in despite of various ordinary remedies, for six weeks. As the eough was rather on the inerease than deeline, he feared that eonsumption might arise; and hence was indueed

by a former patient of mine to communicate with me. Inhalations, composed of decoct. anthem., with suc. conii. and ipecac., quickly allayed the cough and pectoral suffering, and in about ten days he was quite well.

Remarks.—The pulmonary irritation, as detailed in the foregoing case, is very frequently followed, when neglected, by confirmed consumption—which makes its progress in the most insidious and treacherous manner. Persons suffering from what is termed a "slight cold," are too apt to disregard it, and, in consequence of exposure to alternations of temperature and draughts, "a cough" is the result. This cough, which, at the commencement, is a mere local irritation, after existing some little time, is often accompanied by some of the following symptoms:—occasional tenderness or tightness over the chest; shortness or quickness of breath on exertion, with a little palpitation or accelerated action of the heart; languor, or indisposition to exertion, with, perhaps, feverishness or flushing of the face, and increased frequency of the pulse; want of refreshing sleep; a feeling of chilliness, more especially of the feet; the hair, particularly in females, falling off; occasional derangement of the stomach and liver; and an imperfect performance of periodical secretions. Either of, or all, these symptoms, *which are too commonly disregarded*, are found associated with those of a consumptive

habit; but there are a variety of forms in which the disease may develop itself, repecting which no general rule or description can be laid down. The progress of these symptoms is very uncertain: sometimes they alarmingly increase, and the patient sinks in a few weeks; while in others, it may proceed in its course for months, or even years.

Should the reader detect in himself or in those dear to him, any tendency to pulmonic disease, I hope, that upon being reminded of the fatal consequences of neglect, he will derive to himself a lesson of caution and circumspection, and instantly seek or recommend professional assistance. Let him not *wait*, as is, alas! too frequently done, until the disease has usurped a devastating reign in the system, which may resist every effort to control it.

Hundreds, nay, thousands of persons in the enjoyment of the best health at the commencement of the year, fall victims, before the close of it, to bronchial and pulmonary complaints, consequent upon a neglected cold or cough. I do not assert that in every such case submitted to the influence of inhalations, pulmonary disease will not be developed, but of this I am morally certain, that in ninety-nine cases out of a hundred, such will be the result.

Case XVII.—Incipient Consumption.—A young

lady of strumous habit, residing at Rochester, consulted me, by the recommendation of a relative, a former patient, who had been restored from what had been deemed an incurable disease of the heart. She was much reduced in strength, had suffered from a hacking cough for nine months, with shortness of breath, animal heat 101°, constant pain over the left collar bone, and tightness of the chest, pulse 95, furred tongue and loss of appetite, great depression of spirits, and irregularity of female constitution. I prescribed at the outset inhalations of iodine, but the effect being unsatisfactory, I substituted the saturated solution of chlorine, with the juices of belladonna, lactuca, and ipecacuanha, a counter-irritant over the clavicular region, and the administration of gentle aperients, and afterwards, preparations of quinine and steel. Treatment on this principle was pursued for three weeks, when the chest symptoms were overcome, she had increased in weight and strength, and was in a better state of health than she had been for a lengthened period.

Case XVIII.—Cough following Measles.—I was requested, in the spring of the year 1839, to visit a young lady, aged fourteen, of delicate appearance, whom I found suffering from a constant and most distressing dry cough, the consequence of an attack of measles; and which had existed for nine weeks. In addition to the

cough, my little patient had experienced, for some days past, great oppression at the chest, with difficulty of breathing, feverishness, and palpitation of the heart. Inhalations of chlorine and lactuca were employed, with a little internal febrifuge medicine, and the cough, pectoral, and other disturbance, quite ceased in seventeen days. At the expiration of that period I recommended her removal into the country, where her general health was completely restored.

Remarks.—The parents of the young lady were most anxious as to the result of the treatment, having lost a child from consumption, induced by the same species of cough, which is a frequent source of inflammation of the substance of the lungs, and should on no account be disregarded, more especially when there is the slightest tendency to pulmonary disease.

Case XIX.—Chronic Bronchitis.—The wife of a respectable tradesman, aged thirty-five, consulted me. She had been severely suffering for five years from cough, which was now attended with a mucopurulent and fibrinous expectoration, and difficulty of breathing. On listening to the chest there was no pectoriloquy, cavernous rhoncus, or other physical sign indicating tubercular disease, although almost all the general symptoms which usually denote this disease were present; such as prostra-

tion of strength, emaciation, hectic flush, and nocturnal perspirations. By the administration of inhalations of iodine, iodide of potash, with sulphuric æther, and the juices of belladonna and conium, she rapidly got better, and remained tolerably well for three months, when, in consequence of taking cold, a slight relapse of the old symptoms occurred; they were again combated by the like means, and she perfectly recovered from the bronchial affection, and has remained in good health up to the present time.

Remarks.—This interesting case was occasionally seen by a talented practitioner (the former attendant of the patient), who, since this occurrence, has taken much interest in my mode of treatment, and has employed it in many cases with the utmost advantage.

Case XX.—Chronic Cough.—I was consulted, about eight years ago, by a lady aged seventy, who had been subject to an hereditary cough the greater portion of her life. The lady appeared to be in tolerably good health, and she only complained of great distress and difficulty in dislodging the phlegm, more especially upon first waking in the morning, when she often feared that she should be suffocated. For the purpose of arousing and augmenting the nervous power in the bronchial tubes and lungs, from the loss of which the difficulty of expec-

torating mainly proceeded, I prescribed inhalations of ammoniacum, ammonia, squill, and balsam of tolu, which completely accomplished the desired object. The lady is still living, and, when troubled with these symptoms (which however rarely happens), she invariably finds immediate relief from the same remedies.

Case XXI.—Chronic Nervous Cough.—A captain in the navy, residing at Portsmouth, whose constitution, it appeared, was much broken down by a residence in a tropical climate and intemperate habits, consulted me, per letter, for a chronic cough, to which he had been subject since his return to this country, a period of five months. He very minutely described his symptoms, which denoted great nervous debility, and a continued irritation of the mucous membrane of the bronchial tubes, with impeded breathing, and functional derangement of the liver and digestive organs. Sedative applications were locally made by inhalations, to the air-passages, and with a course of alteratives, with light vegetable tonics, quite cured the cough, and caused the digestive functions to be carried on with greater activity, in short, his general health and strength became better than it had been for very many years.

Case XXII.—Loss of Voice.—A clergyman, residing in the country (who had paid much attention to the

study of medicine), consulted me, per letter, respecting a friend who had for a long period complained of great irritation in the throat, and a weakness or relaxation of the chordæ vocales (or muscles concerned in the formation of the voice), attended with loss of voice, which rendered him quite incapable of performing his professional duties. The gentleman attributed the complaint to over exertion of the vocal organs. Many remedies had been tried in vain. I prescribed inhalations of myrrh, tolu, ammoniacum, and belladonna, which in seven days quite removed the irritation in the throat, and restored the voice. A slight return of the complaint took place some few months afterwards, but it was quickly overcome by the same remedies; and since that, the gentleman has remained quite well.

Remarks.—I have had several cases of this kind, in which similar remedial means have been equally successful. Camphor, ammonia, assafœtida, and sulphuric æther, are also remedies of great value in these cases—their good effects would seem to arise, not only from the inhalations acting directly on the part implicated, but also from imparting their influence, by a sympathetic action, to the nerves of the throat and bronchial tubes.

Case XXIII.—Nervous Affection of the Larynx.—The subject of this distressing complaint was

a lady of pale and melancholy aspect, suffering under great nervous irritation, produced by trouble and anxiety of mind. She complained of a choking sensation, and a peculiar "crowing" cough, somewhat similar in sound to the hooping-cough, caused by a spasmodic constriction of the glottis. Inhalations of ammoniacum, galbanum, and stramonium, to act locally on the part affected, and mineral tonics to diminish nervous instability and to improve the general health, with pure air, and the shower bath, quite reinstated the health of my patient.

Case XXIV.—Chronic Cough.—A lady, aged forty, of nervous temperament, who had, at times, for four years, suffered from cough, dependent upon irritation of the trachea, consulted me, June 27th, 1835. Inhalations of conium were at first prescribed, but without producing much benefit; subsequently belladonna was substituted, and removed the cough, the cessation of which greatly improved the general health. The cough remained quiet for nearly nine months, when it returned, although in a somewhat modified form; similar inhalations were again resorted to with complete success, and the lady has been quite well since that time.

Case XXV.—Chronic Cough.—An elderly man, a traveller, of weak constitution, who had been suffering

under, for some years, a spasmodic cough, consulted me in September, 1839. I prescribed an inhalation of æther, ipecacuanha, and belladonna. The patient started a few days afterwards upon a journey, so that I had not an opportunity of watching the effects; but subsequently I received a communication from him, stating that the remedies had given immediate relief, and that by steadily persevering in their employment for six weeks, the cough had been completely and permanently cured.

Case XXVI.—Chronic Cough.—A young unmarried lady, of slight figure and delicate constitution, consulted me in December, 1836, for a severe cough, which had baffled medical treatment for ten months. She was greatly debilitated; pulse quick; slight and difficult expectoration; tongue feverish; bowels torpid. Stethoscopic examination gave no indication of pulmonary disease, but, upon pressing the trachea under the thyroid cartilage, my patient flinched, and informed me that all along there had been great tenderness at that part. It was evident to me that the case was one of chronic inflammation of the lining membrane of the trachea. The treatment consisted of the application of leeches and blisters to the throat, with saline aperients; by this means the local tenderness and the fever were very greatly relieved, and I then prescribed

inhalations of chlorine and conium. The administration of the chlorine at first caused some little difficulty of breathing, and increased the cough; but the quantity and frequency of the inhalations being reduced, these unpleasant symptoms soon subsided, and in six weeks she had quite recovered. Simultaneously with the inhalations were given preparations of steel, to improve the general health, and they fully accomplished the object that was intended.

Case XXVII.—Asthma.—Some time since I attended a married lady, about 40 years of age, who had been asthmatic for several years. On the occasion of my first visit I found her lips of a deadly hue, the extremities cold, with a clammy perspiration, and she was fighting in extreme agony for breath, as if fearing immediate suffocation; the fit lasted for about twenty minutes, and was finally relieved by a copious expectoration of puriform matter. Her friends informed me that she had been under medical treatment, but the remedies employed neither mitigated the distress nor altered the condition of the disease; and as her general health, which had been previously pretty good, now visibly declined, they became anxious about the result, and were desirous that she should put herself under my treatment. I prescribed inhalations of æther, ipecacuanha, and balsam of tolu, and

a very mild alterative medicinal course to improve the different functions, which were irregularly performed. Under this plan the dislodgment of the bronchial secretion was considerably facilitated, the difficulty of breathing removed, and by steadily pursuing the treatment advised for a short period, she was cured of the complaint, and restored to a good state of health.

Remarks.—In many hundred cases of different species of asthma, a similar treatment, modified according to circumstances, has been equally successful.

Case XXVIII.—Chronic Cough.—A request was made that I should visit a lady at Birmingham, which (thanks to the expedition and facility of communication by railways) I was enabled to comply with. My patient, who was aged about thirty, of a lymphatic temperament, and enceinte, complained of a dry hacking cough, which had existed, more or less, for ten months, and was accompanied with loss of voice, tenderness at the throat, and great irritation throughout the whole of the upper part of the chest. The paroxysms of coughing were particularly distressing, and long continued, at night time; so much so, as to destroy sleep, and to make her fear, as well as her medical attendant, that the incessant coughing and straining might cause a miscarriage. The complaint originated with an attack of

influenza. I had an opportunity of seeing the prescriptions which she had followed; and I found that every remedy, used in ordinary practice, had been fully and fairly tried, without producing any permanent, and but little temporary, benefit. In this case it appeared to me, that the tissues of the mucous membrane of the air-passages and vessels were preternaturally dry, from their texture having been altered by cold, and that a morbid irritation of the coats of the air-tubes had in consequence been produced. My patient was directed to employ inhalations,—composed of balsam of tolu, copaiba, æther and ipecacuanha. In twelve days the cough was cured, and there appeared a general improvement in all the functions of the system. About a month subsequently, I heard from her intelligent accoucheur that she had been safely confined; and since then, she has retained her natural health.

Case XXIX.—Incipient Consumption.—A young lady, aged twenty-two, unmarried, of delicate constitution (residing at Gravesend), was placed under my care, labouring under the following symptoms: distressing cough, attended with a muco-purulent expectoration, difficulty of breathing, with occasional stitching pains over the left collar-bone; pulse low, and intermittent; extreme debility, with loss of flesh; digestive organs out of

order; tongue furred, appetite bad, animal heat at times very high. The cough originated from catching cold, which had been neglected, notwithstanding she had very recently lost a brother from consumption. On examination by the stethoscope, the respiratory murmur, more particularly at the left side, was unhealthy, and the action of the heart was slow and irregular. Inhalations of chlorine, belladonna, and conium were prescribed, combined with mild aperient and tonic medicines. The amendment under this treatment was so rapid, that she was enabled to return to her parents in three weeks. The remedies were continued at my request, for eighteen days, after her return home. At the expiration of that time, I visited her, and found that she was quite free from all signs of pulmonary irritation. I took the opportunity of calling upon the medical gentleman, who had attended her family, and he, most kindly and generously, expressed his admiration of the treatment, which had been so successfully adopted.

Case XXX.—Chronic Cough.—A lady, residing at Manchester, consulted me, per letter, respecting her daughter, who was suffering from a severe cough, attended with much expectoration of thin frothy mucus, for the cure of which, ordinary practice had failed. She had occasionally got better, but the cough sooner or

later re-appeared, and became as troublesome as ever. The young lady commenced inhaling chlorine, belladonna, and conium, on March 20th, 1839, and was permanently cured in nineteen days, without any other remedy.

Case XXXI. — Hæmoptysis, or Spitting of Blood.—A young gentleman, aged twenty-one, of slight make, and languid vitality, consulted me, and stated that he had been subject to a slight cough and occasional spitting of blood, occurring to the amount of half an ounce to an ounce or more, for the last eighteen months ; and as the latter symptoms had of late much increased in quantity and frequency, and had withstood the ordinary remedies, he now placed himself under my care. An examination of the chest made it apparent to me, that the blood exuded from the mucous surfaces of the membrane of the bronchial tubes, and that the complaint, which had been looked upon as the *avant courier* of consumption, would be speedily cured. I prescribed terebinthinate inhalations, in conjunction with cold bathing of the chest. In ten days, the expectoration was only slightly tinged with blood, and the cough had nearly ceased. In twenty days he had quite recovered. This case happened in the year 1840, and he has remained in tolerably good health up to the present time, and has been quite free from the preceding symptoms.

Remarks.—Complaints of this kind fall almost daily under my observation; and the result of this simple plan of treatment, by inhalation, has convinced me, that it is the only rational and successful way of bringing about a healthy state of the tissues of these parts, and a more natural condition of their actions, secretions, and circulations. It is, perhaps, necessary to observe, that the above remedies should be used in a fluid of the same temperature as the atmosphere, in which their active medicinal qualities or principles are perfectly soluble and diffusible.

Case XXXII.—Chronic Laryngitis.—A medical gentleman, residing in Suffolk, consulted me for a chronic affection of the larynx, which had existed for upwards of seven years, and had latterly become so severe as to incapacitate him from attending to his practice. He was much reduced in strength and appearance, and, as the usual medicinal means had failed, he now contemplated going to a warmer climate, and relinquishing practice. Before finally determining upon a step so detrimental to his interests, he was desirous of trying my plan of treatment, by inhalation. After adopting inhalations of iodine and conium, with counter-irritation, for a short time, I had the extreme gratification of hearing that he had derived the greatest possible benefit from them, and that (although not cured) he was so far recovered as

to be enabled to undertake, without inconvenience, his professional duties.

Case XXXIII.—Mucous Catarrh, Simulating Consumption.—In the spring of 1840, I was requested to visit a young lady, unmarried, aged twenty, who had been suffering from influenza for two months, during the greater portion of which she had been confined to her bed. The medical gentleman, by whom I was called in consultation, considered her to be in the latter stage of pulmonary consumption. I found the patient much emaciated, and constantly tormented with a distressing cough and difficulty of breathing. The expectoration was puriform, extremely fœtid, and copious, but not (as the microscope showed) tuberculous. The countenance was anxious and flushed; the secretions morbid; animal heat, 99°; and the circulation very rapid: acute pain upon pressing the lower part of the throat. Upon making a close stethoscopic examination of the chest, a mucous rattle was discernible, attended with a peculiar sort of hissing, or wheezing noise, and the respiration was inaudible over the whole of the chest; but I could discover no cavernous respiration—no pectoriloquy, or any other sound, which denoted tuberculous disease. I looked upon the case as being mucous catarrh and communicated this opinion to my friend, who, however, still adhered to his former diagnosis.

The plan of treatment consisted in removing the local congestion, by the application of leeches to that part of the throat which was tender upon pressure; in facilitating the expectoration, and allaying irritation in the bronchial tubes, by inhalations of chlorine and conium, and administering such remedies as were calculated to improve the tone of the vessels of the bronchial tubes, and of the system generally. The symptoms proved obstinate, but they eventually yielded, and she quite recovered. As there appeared a *tendency* to consumption, and as the lady had always suffered from the vicissitudes of the weather, I now recommended her a change of climate, and she repaired to Madeira in the following winter. The lady, who returned to this country perfectly well, has since married, and is the mother of a fine healthy child.

Case XXXIV.—Incipient Consumption.—In the February of 1841, I was consulted by a young lady, aged seventeen, of pallid appearance, with a peculiar sharpness, or wasting, of the features, contracted chest, and scrofulous habit—inherited from her parents, both of whom had died of consumption. She had cough, attended with expectoration; occasional pains under the breast-bone, with difficulty of breathing; and severe palpitation after the least exertion; but no pain or tenderness over the

region of the heart. There was fever, but little or no nocturnal perspirations; the pulse 120; the urine and bowels natural—irregular in female constitution. On examining the chest, the following physical signs were elicited: respiration very dull over the superior parts of the chest, anteriorly and posteriorly; and on and below the collar bone on the right side, there was much less resonance on percussion than on the other side. The heart acted in a very rapid and irregular manner; and, with each beating of the pulse, a sound was heard, which appeared to denote that the valves did not properly do their duty, and thereby caused some obstruction in the circulation. The treatment consisted in inhalations of belladonna, iodine, and digitalis; at the same time febrifuges were employed internally, and, when the symptoms permitted, were followed up by tonics, composed of steel and quinine. In twelve days a decided improvement took place, and in a month she had recovered. The young lady shortly afterwards paid a visit to the Isle of Wight, and returned home quite free from any complaint.

Case XXXV.—Chronic Inflammation of the Throat.—A young lady of delicate constitution, and much reduced in strength, had, in consequence of taking cold, for two years previous to her consulting me, been suffering from sore throat, hoarseness, and occasionally

complete extinction of voice. She complained of much soreness and irritation behind the thyroid cartilage, and a constant hawking, from a desire to clear the throat—and she could now only converse in low whispers. Her general health, in other respects, was tolerably good. It was feared by her relatives that she was in a consumption, but the general and physical symptoms negatived this assumption. On examining the throat, the source of this long-continued suffering became at once apparent: the whole of the posterior fauces were in a highly congested state; the investing membrane of the epiglottis was red and vascular; the glands beneath the mucous membrane of the throat were prominent and enlarged. The treatment consisted in the application of a few leeches to the throat, mucilaginous inhalations, and occasionally a dose of ol: ricini. By these measures the inflammatory symptoms were greatly abated; the solution of the argent. nitratis was then locally applied behind the epiglottis, and into the cavity of the larynx, and over the mucous membrane of the pharynx and tonsils. I continued this mode of treatment for three weeks, at the end of which time all irritation in the throat had ceased. In one month she was so far recovered as to be enabled to read out for half-an-hour at a time, without the slightest difficulty or fatigue, and shortly afterwards she got quite well, and has remained so.

Case XXXVI.—Consumption.—A lady aged forty, of slight make and scrofulous constitution, consulted me, for a cough attended with extreme debility and emaciation. The lady stated that she had, in early life, two severe attacks of pleurisy—from the effects of which, she had never quite recovered. Her general appearance entirely assumed the aspect of a consumptive patient, and the stethoscope afforded signs of pectoriloquism, at the humoral extremity of the right clavicle, and on percussion the sound was found to be dull all over this portion of the chest. The pulse varied from 105 to 115 —the animal heat 101°—she could not count more than seven without taking a breath—the inspirations 31 in a minute. The expectoration was profuse, and she occasionally suffered from night perspirations. The slightest change in the wind or temperature gave her cold, and made the cough almost unendurable: the tongue was coated; the appetite impaired; the bowels very loose; and she complained of want of sleep.

I prescribed a preparation of iodine and conium, to be inhaled twice daily, and a vesicating and iodine liniment to be applied over that portion of the chest where the pulmonary disease existed. The trisnitrate of bismuth was taken internally to overcome the diarrhœa. At the end of a fortnight, a slight beneficial change had taken place, both in the nature and quantity of

the expectoration, and the cough was less frequent. The diarrhœa had quite ceased, and she expressed herself as feeling stronger, and better in every respect. I now increased the strength of the inhalations, and prescribed the oleum morrhuæ (cod-liver oil) to be taken twice a day in an aromatic bitter. In six weeks, the cough was nearly overcome, and she was quite free from those violent paroxysms which had formerly so distressed her, and the perspirations had ceased. Her flesh was firmer, and had increased in a more remarkable manner than I had ever before witnessed. The same treatment, modified according to symptoms and circumstances, was steadily persevered in for a little more than three months, by which period the cough had quite ceased, the pectoriloquism was changed for a mere resonance, and she was restored to average good health.

Remarks.—The above case (which, I was given to understand, had been pronounced a hopeless one) was one of the most satisfactory I have ever treated; and very strongly exhibits the beneficial effects of inhalations. It also exemplifies the striking effects of cod-liver oil, in restoring flesh and vigour to the consumptive patient. It has always been my opinion that too much effort or attention cannot be bestowed upon supporting and adding to the strength of persons either predisposed to, or suffering

under this disease—which, as the very name implies (*consumo*, to waste), is one of debility and want of power ; and I cannot but hail the introduction of this oil, as one of the greatest boons ever offered to suffering humanity.

It may have been observed that cod-liver oil is not mentioned as having been employed in more than one of the previous cases—this fact is accounted for, by my having deemed it the better plan to chiefly detail those instances of recovery, which came under my treatment some years ago (previous to the introduction of this substance) ; as, by so doing, the *permanency* of the cures is more completely established.

Case XXXVII.—Chronic Cough.—A gentleman, residing at Oxford, aged fifty, consulted me for a cough, of two years' standing, attended with expectoration of tough mucus, and a hoarseness, and a feeling of soreness at the top of the windpipe. In consequence of the failure of the usual remedies, he had requested his medical adviser to try the effect of medicated inhalations ; but after a long course of treatment, they proved equally unsuccessful. Notwithstanding this circumstance, my patient still felt assured that it was the only mode of practice from which he could reasonably hope to derive relief, and in consequence came to town and placed himself under my care. From a careful examination of the chest there

appeared no signs of tuberculous disease, the only unnatural sound being a hard, grating noise accompanying the passage of the air through the larynx ; and it seemed to me, that the cough arose from chronic inflammation of the larynx. I prescribed inhalations of chlorine and belladonna, combined with the external application of the acetum cantharides to the throat. In ten days the cough was much quieter, and my patient returned to the country delighted with the prospect of recovery ; nor were those hopes disappointed, for, by regularly using the remedies for three weeks, the complaint was completely removed.

Remarks.—In this case the inhalations which had been previously given were not only the very reverse in their nature and operation of those which I successfully prescribed, but they had also been improperly prepared—the common tinctures having been substituted for the juices—neither had a proper inhaler been used. This is only one of numerous instances I could cite, in which the success of inhalation has been thwarted by an improper mode of administration. The practitioner in question had been frequently known to express his doubts of the value of inhalation ; but the successful issue in this case, and in others which subsequently came under his observation, convinced him that his scepticism really proceeded from want of practice in this plan of treating disease, in which

experience and nice judgment are essentially requisite to secure those happy results which almost invariably arise from its proper application.

If inhalation has not succeeded in the hands of the prejudiced and inexperienced practitioner—for it is a law of nature that whatever is greatly valuable in its use, must be proportionately mischievous in its abuse—the failure must not, in common justice, be attributed to the inefficiency of the system, but to the right causes—to inexperience, to a want of perseverance in this *modus medendi*, and an absence of discrimination and skill in the selection of proper cases, and to an incorrect adaptation of the remedies employed to the existing condition of the system and stage of the disease. In almost every instance that has come to my knowledge of the failure of the practice, it has arisen from either of these circumstances.

No doubt much of my own success has resulted from my constant study and treatment of these particular diseases. The division of labour and attention in the treatment of the various diseases to which humanity is liable has always been regarded as highly advantageous to the public and essential to the advancement of medical science ; for we are informed by Herodotus that in ancient Egypt a special practitioner was employed for almost every complaint ; at which we cannot be surprised when

we recollect the multiplicity of diseases which usually occupy and bewilder the mind of the practitioner, furnishing by far too wide a field ever to be satisfactorily occupied by any individual, whatever may be his talents or attainments. Besides which, the anxiety displayed by those who have successfully practised inhalation, and the particular care and perseverance in conducting the process, and duly watching and regulating its effects, will frequently cause it to succeed, when it would fail under less careful management.

The decided curative powers of medicated inhalations I now consider as too well established to be disputed; and those readers who are unfortunately labouring under any affection of the respiratory organs will do well to consider whether they should sacrifice their health, or possibly their lives, to the ordinary "do-nothing" system, while there is so great a probability of this method, when properly applied, effecting a speedy and permanent recovery.

INDEX.

Air, importance of pure, 35.
——, component parts of, 35.
——, changes of, during respiration, 35.
——, how deteriorated, 36, 38.
——, change of, an important preventive and remedial agent, 52.
Asthma, case of, 152.
———, inhalation of sulphuric æther in, 80.
Ages, most liable to consumption, 30.
Auscultation, of what it consists, 19.
Ablutions, cold, advantages of, 55.

Blood-letting, injurious results of, 99, 130.
——, spitting of, 122.
Bronchitis sometimes mistaken for consumption, 21.
————, cases of, 124, 127, 138, 146.

Cupping, dry, recommended, 99.
Clothing proper, importance of, 45.
Counter-irritants, remarks on, 98.
Climate, change of, sometimes beneficial, 54.
Cleanliness highly conducive to health, 55.
Cough, how produced, 12.
———, common, too often disregarded, 15, 143, 146.
———, hooping, case of, 131.
———, chronic, cases of, 141, 142, 147, 150, 151, 153, 155, 164.
———, following measles, case of, 145.
———, nervous, case of, 148.
Chest, description of, 7—10.
Consumption, symptoms and stages of, 14—18.
————————, diagnosis of, 19.
————————, prognosis of, 23.
————————, frequency of, 25, 26.

Consumption, cases of, 111, 117, 120, 128, 135, 139, 144, 154, 159, 162.
————————, may be cured, and how, 24, 61, 91, 114, 115, 123.
————————, frequently fatal, under any mode of treatment, 4, 61.
————————, its identity with scrofula, 113.
Catarrh mucous, simulating consumption, case of, 158.
Caustic, application of, sometimes beneficial, 161.
Cod-liver oil, the value of, 102, 163.
Chlorosis, simulating disease of the heart and consumption, 133.
Chlorine discovered by Scheele, 87.
————, inhalation of, introduced by M. Gannal, 88.
————, Dr. Cottereau's remarks on, 89.
————, efficacy of, in consumption, 89, 90, 91, 119.
————, cases treated by, 117, 120, 128, 145, 146, 152, 154, 159, 165.

Debilitating measures always to be avoided, 100, 131.
Diet, importance of attention to, 40.

Excavations may be healed, 24, 91, 114, 115, 123.
Emetics, advantages of administering by inhalation, 80.
Exercise conducive to health, 47.
———, rules for, 48.
Exhalations, baneful, remarks on, 38.

Females most subject to consumption; the reasons why, 31.
Food, on, 40.

Hæmoptysis, remarks on, 122.

Inhalations, how beneficial, 2—10.
————————, used by ancients, the reason of their failure explained, 63.
————————, numerous high authorities quoted in favour of, 64—96.
————————, cases successfully treated by, 111—167.
Inhalation as a preventive measure, 49.
————————, always a palliative, if not a curative, 138.
————————, the rationale and method of, 106.
————————, unaccountably neglected by medical men, 2.
————————, no catholicon, 61.
————————, general remedies should be combined with, 5.
————————, the good effects of, thwarted by improper mode of administration, 3, 73, 165.

Inhalers, common, very defective, 107.
Iodine, inhalation of, its decided curative effects, 92.
————————, various eminent authorities quoted in favour of, 92, 96.
————————, cases successfully treated by, 111, 124, 128, 136, 139, 141, 147, 157, 160, 162.
Iodine often injurious when taken by the stomach, 115.
———, liniment of, beneficial in some cases, 113.

Juices preferable to tinctures in inhalations, 105.

Lungs, description of, 7.
———, exercise of, highly important, 49.
———, how injured by the use of stays, 46.
———, diseases of, treated by inhalations, 58.
———, prevalence of complaints of, easily accounted for, 26.
———, statistics of diseases of, 25.
Liquors, fermented, a frequent source of disease, 43.
Laryngitis, case of, 126, 157.
Larynx nervous affection, case of, 149.

Measles, cough following case of, 145.
Madeira, climate of, 54.

Negroes liable to consumption, 29.
Nitrous gas beneficial in convulsive coughs, 77, 132.
————————, how obtained, 77.

Oil, cod-liver, 102, 163.
Occupation, its influence on health, 27, 39.
Organs, respiratory, description of, 7.

Prevention of disease, means of, 34—57.
Prejudices of the Profession against any new treatment, 68, 87, 94, 166.
Pulmometer, 23, 44.
Passions, their influence on the general health, 56.
————————, the proper control of, 56.
Percussion, mode of, described, 20.
Prognosis, when favourable and when not, 23.

Quackery, condemnation of, 69.

Remarks, preliminary, 1.
Respiration, free, importance of, 46.

Scrofula, its frequent identity with consumption, 113.
Skin, its important functions explained, 55.
Seasons, their influence in consumption, 30.
Sex, female, most liable to consumption, 31.
Statistics, 25—32.
Stethoscope, description of, its discovery and importance, 19.
Stays, the pernicious effects of, 46.
Sedentary habits inimical to health, 47.
Stomach, its influence on the whole system, 39.
————, not interfered with by inhalation, 116.
Sedatives beneficial when used by inhalation, 103.
————, list of those chiefly in use, 103.

Tonsils, ulcerated, case of, 141.
———, inflamed, inhalation useful in, 68.
Tubercle, its nature, origin, and progress, 12.
————, various opinions respecting it, 12.
Tulloch's, Major, tables, 28.
Tonics, 101.
Temperature, 51.
————————, the best for inhaling at, 107.
Throat, sore, inhalation a remedy in, 68, 160.
Treatment by medicated inhalations, 58.
————, uselessness of ordinary, generally admitted, 4, 58.

Uvula, ulcerated, case of, 141.

Ventilation, importance of, 36.
Voice, loss of, 148.

THE END.

LONDON : PRINTED BY W CLOWES AND SONS, STAMFORD-STREET.

EXTRACTS FROM REVIEWS

OF

DR. MADDOCK'S TREATISE ON DISEASES OF THE LUNGS, AIR-PASSAGES, AND THROAT.

"Though the inhaling of warm vapours has long been recommended, it has rarely been employed, and never till lately been reduced to what may be termed scientific practice. Of all men the professors of the medical art are the most determined opponents of every innovation. They regard every new discovery with as much alarm as the orthodox in theology look upon heresy or schism. He must, indeed, be a bold man who propounds a new theory in medicine, or a new mode of treatment in the curative process. If he cannot quote Hippocrates in support of his principles, or if Celsus is silent on the subject, his views are disregarded, and probably his motives are impugned. Indeed, though the most indubitable proofs of the efficacy of a treatment differing somewhat from the prescribed formula of ordinary practice can be given, the great majority of the profession will rather doubt the testimony of their senses than deviate an inch from the antiquated customs of their great-grandfathers. . . . We strongly advise the public to consult the work, for to every unbiassed reader the proofs Dr. Maddock adduces in favour of his practice must appear convincing." —*Atlas*, March 1st, 1845.

"We have perused the Doctor's treatise with considerable attention and much interest, and we can recommend it to the study of the profession, and to the attention of the community at large."—*Morning Post*, August 10th, 1844.

"Dr. Maddock makes out a most decided and satisfactory case in favour of his mode of treatment."— *Weekly Chronicle*, July 14th, 1844.

"We most earnestly recommend its perusal to everybody concerned in the treatment, or in fear of these complaints, either for themselves or their friends."—*Era*, June 23rd, 1844.

"We trust that the work will call the attention of the profession to the important subject of inhalation, which has been so unaccountably neglected. . . Dr. Maddock has treated this class of disease with circumspection, and has produced a book of great value."—*Weekly Dispatch*, October 6th, 1844.

"We recommend its perusal in the first place to the afflicted, who will probably derive from it some well-grounded hope of restoration to health; and, in the second place, to the student and matter-of-factist, who will collect some information from its pages which may be useful to the practitioner, or gratifying to the philosopher."—*Herald*, October 18th, 1844.

"We cannot but regard Dr. Maddock's work as one of the most important, in point of sound practical information, that has ever issued from the press."—*Blackwood's Magazine*, September, 1844.

"Dr. Maddock's treatment is founded on a rational theory, and the practical results of it are most gratifying."—*Critic*, February 15th, 1844.

"The work will well repay perusal, and should not be neglected by heads of families, any member of which is suffering under either of these complaints."—*Tablet*, February 8th, 1845.

"Dr. Maddock is the son of the late Henry Maddock, Esq., the well-known barrister, and promises to rise in his own profession in as eminent a degree as his parent. . . . . The system (inhalation) proposed by Dr. Maddock certainly must appear to every being of common sense as the most effectual method of applying a remedy to a portion of the system which cannot be directly reached by medicine itself. . . . . We recommend our readers to purchase the work."—*Wesleyan Chronicle*, February 19th, 1845.

"This volume is the production of an intelligent practical man; and it is no more than an act of justice to the writer to say that, without the delusive promises of quackery, he holds out a more cheering and well-founded hope of recovery than almost any of his professional brethren."—*Naval and Military Gazette*, February 22nd, 1845.

"We have deemed it our duty to notice and second the endeavours of the author in extending and making known his mode of treatment; for it is impossible not to believe that it is particularly applicable in these complaints."—*Literary Gazette*, April 26th, 1845.

"We strongly recommend to all who are suffering from any chest affection an attentive perusal of this volume, and an application, under the direction of the author, of the remedies it develops."—*John Bull*, May 31st, 1845.

"The facts in question are so consoling, so important, and, what is yet more to the purpose, carry with them such marks of candour and authenticity, as to present eminent claims to the patient attention of the profession and the public. We are persuaded, in recommending a perusal of this volume, we are aiding in the dissemination of a mode of practice capable of affording admirable results."—*Family Journal*, June 22nd, 1844.

"Dr. Maddock has rendered an essential service to medical science by the publication of this important and interesting work."—*Court Gazette*, November 6th, 1844.

"The volume before us seems to be written under a sincere conviction of the truth of the principles it asserts, and with an earnest desire for the mitigation of the evils of which it treats. Fully participating in so humane a motive, we gladly lend our columns in order to attract the attention of all those who may be unfortunately interested in such a subject. Should the system it advocates fail of the full and complete success aimed at, the fatal termination that now so often—may it not be said almost invariably?—distinguishes consumptive cases, will surely be held sufficient ground for the endeavour to avail oneself of every possible expedient which enlarged experience offers to notice, or which medical skill, excited by the failure of old and

long-tried systems, may strive to discover in new."—*Sussex Advertiser*, September 30th, 1845.

"But very few years since medical science was 'a sealed book' to all but its professors, by whom it was as jealously guarded from the public eye as were the mystic secrets of the Egyptian priesthood from the priest-ridden people. In place of these we have now intelligent and persevering men, gaining medical knowledge, and as eagerly diffusing it among those who trust their lives in their hands; claiming only the superiority which is acquired by exclusive attention and constant practice: and this enlightened policy is fully repaid by the increased confidence which the public place upon really talented men. Of this class is the author of the work before us, a work written with the best feeling which should actuate a medical man, a sincere desire to alleviate the miseries of his fellow-creatures, second only to exertions for his own honourable maintenance. The very clear exposition of the symptoms of incipient consumption, the steps necessary to resist its insidious encroachments, and the very powerful though much neglected remedies suggested for resisting it, altogether contained in this interesting treatise, renders it a most desirable acquisition to every person or family in whom there is any hereditary tendency to phthisis."—*Liverpool Chronicle*, September 13th, 1845.

"This is a most valuable contribution to the medical literature of this country, and reflects much credit upon the author."—*Brighton Guardian*, September 10th, 1845.

"We recommend the work to our readers, as it appears to be fully matured, clearly written, and entirely divested of any quackery or pelf-seeking tendency. The work well deserves perusal, and the practice, as far as our knowledge and experience extends, will repay not only a serious consideration, but a patient trial of its merits."—*Medical Journal*, December 13th, 1845.

"This is one of the most interesting and valuable contributions to pathology recently issued from the press, and commends itself to the serious attention of the British reader by its masterly delineation of that fatal disease which ravages our island and proves so destructive of its youth, its bloom, its beauty. From the frequent and sudden changes in our temperature, from the humidity and fogs which occur in the vernal and autumnal seasons—pulmonary affections constitute the greater portion of our maladies. The graphic description in this able book, and the treatment pointed out, at once novel, ingenious, and natural, together with the proofs adduced of its efficacy and success, induce us to hope that the philanthropic labours of its author may be duly appreciated, and produce those satisfactory results which it seems to us reasonable to anticipate."—*Hampshire Telegraph*, November 1st, 1845.

"This work is entitled not only to general attention, but also to the particular regard of the medical profession, as well as that of the suffering community."—*Reading Mercury*, September 27th, 1845.

"The great importance of the question to the many who suffer in various degrees from these distressing complaints will, no doubt, create for this interesting and able work a great degree of interest, which the high and well-earned reputation of the author will tend much to enhance."—*Exeter Gazette*, September 27th, 1845.

"That inhalation is beneficial and curative must be admitted by all practitioners who have courage and honesty. That it has softened and soothed the path to the grave in those who were rendered incurable by neglect—that in incipient consumption it has restored health and saved life—are facts which no pathologist will deny. We have received great information from this work—information which we assure our readers is of the first moment to the great human family; and we should be neglecting our duty if we did not urge upon all classes, unprofessional and professional, to peruse it."—*Literary Journal*, August 10th, 1844.

"We are by no means astonished that this work should have arrived at a third edition, as it is written in a style that will recommend it to the general reader as well as the professional man, and is full of matter bearing upon the feasibility of the treatment recommended. The author strengthens his position by reference to many celebrated physicians, and gives cases that cannot leave a doubt upon the minds of any that his recommendations will be found to be useful. He does not pretend to be amongst those who would say that no case of consumption is incurable; but he raises up in the mind of the reader, by fair means, the conviction that the number of those who are annually carried off by that fearful disease may be very sensibly diminished. We think that no one can rise from its perusal without being satisfied that it is the work of a practical and experienced man; and that it ought, for the sake of those who suffer from consumption, asthma, or bronchitis, to be brought into extensive circulation. It is, in the strictest sense of the term, a valuable work."—*Oxford University Herald*, November 7th, 1846.

"The reputation of Dr. Maddock, standing high as it does among the faculty, will experience no slight access of honour among his professional brethren from the very lucid views he has disclosed, in connection with a train of valuable facts adduced in their corroboration; and the public generally will peruse, with convinced judgment and grateful approbation, one of the best expositions of the mode of baffling a mischievous, but certainly not, in many cases, a cureless malady, which has hitherto appeared."—*Taunton Courier*, February 4th, 1846.

"It would be absurd to deny the fact that diseases of the lungs and heart have been amongst the chief difficulties of the faculty; and comparatively few have been able to give the subject adequate attention, or to make the experiments necessary to enable them to discover anything in the shape of a cure. Too long have they been in the habit of regarding this class of diseases as beyond the reach of medical art; and many a patient has sunk slowly and silently into the grave, who might have been saved by greater skill and knowledge. . . . The cases appended to this volume clearly show that some of the author's patients, who were, under his care, restored to perfect health, would, but for their fortunate application to him, have been allowed to perish from what was mistakingly considered an incurable disease. . . We have no doubt that the book will be extensively read, and that it will be the means of saving many a home from the desolation of having its fairest and frailest inmate death-stricken in the bloom of youth and beauty."—*Hertford Mercury*, January 23rd, 1847.

"The treatment is evidently based upon very sound principles."—*Essex Standard*, February 20th, 1847.

"The work has the character of disinterested integrity in every page. The remedies suggested may be tried with the greatest ease, safety, and benefit. We feel pretty sure that none so afflicted will read the book without being induced to make the trial."—*Bath Journal*, October 10th, 1846.

"It is perfectly evident that the author is a man of much practical experience and ability; his arguments are very reasonable, and his proofs, in the shape of cases, give them weight and authority."—*Maidstone Journal*, March 31st, 1847.

"We believe in the efficacy of the plan laid down, inasmuch as we have known several persons most materially relieved by it who exhibited all the symptoms of consumption."—*Nottingham Review*, February 27th, 1846.

"A most interesting and convincing work. We fully believe, with the author, that the greatest possible mischief often arises from drenching the *stomach* with remedies, when the *lungs* only are diseased. Inhalation is the only safe mode of treatment in these cases."—*Sheffield Iris*, Nov. 12th, 1846.

"The work has reached a third edition; a success due as well to the nature of its contents as to the fearful importance of the maladies of which it treats; and its perusal undoubtedly suggests a wish that the remedies which it advocates were more extensively tried."—*Douglas Jerrold's Newspaper*, November 21st, 1846.

"It is a notorious fact that by the inhalation of certain noxious vapours injury is inflicted on the lungs,—why, then, should not vapours of another character have a beneficial effect upon the same parts? We admire the book for the simplicity of the treatment it prescribes, as well as the novelty of the practice."—*Bedford Times*, October 31st, 1846.

"The main object in view is to elucidate the beneficial effects of direct local applications, under medical superintendence, in every complaint affecting the chest; and the cases in which the practice has been pre-eminently successful are so striking and remarkable, that not only the general reader, but the medical professor, will gratefully acknowledge the benefit conferred upon the human creation by the diligent researches and investigations of the talented author."—*Kentish Gazette*, March 31st, 1846.

"A variety of interesting cases are appended to this treatise, which has now reached the second edition, incontrovertibly showing the efficacy of the practice adopted by the author; and, being a gentleman of some years' standing in the profession, and of high attainments and personal respectability, these instances of the successful results of his valuable and judicious treatment are well worthy of serious consideration by all persons interested in this particular class of diseases."—*Weekly London Newspaper*, February 2nd, 1845.

"The style is clear, forcible, and earnest; the information curious and exact; and the remedies recommended are singularly appropriate."—*Hull Advertiser*, November 13th, 1846.

"The perusal of this interesting volume has convinced us that, however we have been accustomed to consider consumption as incurable, yet if, under skilful advice and superintendence, the author's treatment be adopted before the disease has made too great inroads on the constitution, that it may be arrested in its course, and its victims—often the fairest and brightest portion

of our population—be spared to be the ornaments of society."—*Dorset County Chronicle*, September 10th, 1846.

"It is a duty to suffering humanity to extend the knowledge of the author's treatment."—*Chester Courant*, Nov. 3rd, 1847.

"We feel that we are doing an act of kindness to thousands of our fellow-creatures in recommending an immediate and careful perusal of this work."—*Somerset Herald*, Oct. 16th, 1847.

"We hope it will be universally read."—*Derbyshire Courier*, Oct. 30th, 1847.

"It is written in a plain, common-sense, understandable style, and in a candid and earnest style, without quackery and without pretence."—*Western Luminary*, Nov. 9th, 1847.

"There can be no doubt that it will meet with an extensive circulation among the intelligent classes of society."—*York Courant*, Oct. 14th, 1847.

"Diseases of the lungs may be produced by noxious inhalations, and it is but reasonable that inhalations of a medicinal nature should be the best to apply as a remedy."—*Kentish Observer*, October 14th, 1847.

"Dr. Maddock has proved himself a friend and benefactor to his species."—*Cambridge University Herald*, Oct. 6th, 1847.

"This is a work well entitled to the attention of the medical profession, well as the public at large."—*Dover Chronicle*, Oct. 9th, 1847.

"Medical men are, as a rule, fearful of, and averse to, innovation; they have long considered consumption as incurable, and that belief has, perhaps, filled many a too-early dug grave. They require Pelion to be piled upon Ossa in the way of proof. As in other cases, a little 'pressure from without' is sure to be useful, and therefore we wish this work to be extensively read. Dr. Maddock deserves all credit for the moral courage with which he has bearded the lion of prejudice in his den, and for the good feeling and talent with which he has urged his system upon public notice; and we hope that he will publish case on case, meeting incredulity, which is never convinced by argument, with sledge-hammer blows, in the shape of facts, until the triumph of true science shall be complete."—*Kentish Independent*, June 19th, 1847.

"In his praiseworthy labours he claims the aid of all, and ours we cheerfully accord him, hoping his work may go far to shake down the prejudices of medical men, and by convincing arguments pave the way for the introduction of large improvements in the mode of curing and checking the inroads of these diseases."—*Westonian Mercury*, Oct. 16th, 1847.

"Dr. Maddock has deserved well of his country and human nature in general for the attention he has bestowed on this important subject, and the mass of evidence he has brought together in its favour in the volume now before us. A more than ordinarily attentive perusal of this work enables us to recommend it with the greatest confidence to our readers. To many families it will prove, we are convinced, an inappreciable boon."—*Nottingham Mercury*, September 24th, 1847.

